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HISTORY OF FOOD AND DRUG LEGISLATION IN THE UNITED STATES

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THE various steps in legislating for the protection of the consumer of foods and drugs present an excellent example of the lag of social legislation which is so evident in our socio-economic system.

In the early days of the United States the family constituted the most important economic unit. Most of our people lived on farms. The family produced most of its food and also prepared, cured, and stored it. If it did not prepare its own flour, this was done by custom milling in a nearby mill. Products not raised at home were obtained by bartering excess products for them or were bought in local markets.

Under this system many foods were undoubtedly produced, cured, or prepared under unsanitary conditions. But in this simple society the supplying of food was largely "the family's own business." If the housewife made her butter under unsanitary conditions, the effect of her act was generally limited to her own family.

In sickness home remedies were generally used or the family physician prescribed the remedies, many of which he compounded and dispensed himself. Some nostrums were sold in colonial America, but their sale was relatively limited. Population was scattered, and the instruments for the effective advertising and merchandising of nostrums did not exist.

With the growth of population and with the advent of the machine, the self-sufficiency of the home began to wane; and as time went on the society changed from predominantly agricultural to industrial. Today production is largely to supply other people's wants. Not many foods are produced by the family for its own consumption, even on the farm. Foods and drugs are now supplied from distant and diverse sources. The producer, manufacturer, or packer does not know the consumers of his product. The old forces of control, such as mutual aid, common community interest, and "what the neighbors would say about you" are not so effective as in the simple society of agricultural America. Large-scale production, packaging of goods, improvements in transportation and storage, new discoveries of processing, new products, and advertising have gradually changed the methods of merchandising.

With these changes other forces of social control became necessary to protect the consumer, because new and more numerous methods of exploitation of the consumer evolved. But protective legislation did not keep pace with economic and social change. This lag can be partially accounted for in the fact that anti-social features evolve step by step with the changes from one type of society to another. Before the people are aware of these anti-social features, profiting

groups have intrenched themselves and are prepared, politically, to defend their interests even if these interests are menacing to the consumer. The lag was also in part due to the philosophy of individualism which dominated American legislation. Then, too, consumers have never been organized into a permanently effective political pressure group. The same forces which produced a lag a century ago are operating today, although the force of the philosophy of individualism is weaker. These forces were evident in the struggle for pure food and drug legislation in 1933 and 1934.

The detailed history of pure food and drug legislation in the United States cannot be taken up here (1, 2, 14). Suffice it to say that it began in 1848 with a law which prohibited the importation of adulterated and deteriorated drugs. At that time the druggists favored government regulation of the drug market.

At its first meeting in 1852 the American Pharmaceutical Association adopted as one of its objects "To improve and regulate the drug market by preventing the importation of inferior, adulterated, or deteriorated drugs, and by detecting and exposing home adulterations." Druggists of that day were primarily compounders of medicines; this, perhaps, accounts for their interest in these early regulations. The opposition of druggists' associations to legislation proposed in 1933 and 1934 can be accounted for in a change in the primary function of the druggist. Advertising of proprietaries and other products has caused the druggist to derive most of his income from merchandising commodities instead of from compounding medicines.

The Tea Act of 1883 and its amendment in 1897 were also directed mainly against foreign products. They prohibited the importation of low-grade teas, save for specified technical or manufacturing purposes; prohibited artificial coloring of teas; and provided for the classification of teas admitted to this country. It is interesting to note that even today most domestic products are not classified or graded and many are artificially colored.

Much of the food legislation, federal and state, of the 'eighties and 'nineties was adopted at the instigation of the farmers or the manufacturers of certain food products who were opposed to the sale of certain competitive products. In 1886 a law was passed which provided for the taxing and labeling of oleomargarine, and ten years later a similar law was directed against filled cheese. In 1898 the "mixed flour" labeling law was passed. In 1892 a bill, known as the Lard Bill and directed against lard compounds, was defeated by the efforts of the congressmen from the cotton states and the manufacturers of lard substitutes.

By the beginning of the twentieth century many state pure food laws had been passed, and soon nearly all the states had laws of this kind. State laws, however, could not cope with the problems adequately because of the large volume of goods that was being sent from one state to another. Moreover, the various states set up different standards for the same products, which complicated the enforcement of the laws.

Before a federal law could be passed, public opinion had to be enlisted in its support. The outstanding character in winning public support was Dr. Harvey W. Wiley, chief chemist in the United States Department of Agriculture (3, 4). In 1905 and 1906 when Dr. Wiley was waging his great battle, *Collier's Weekly*, the *Ladies' Home Journal*, *Independent*, *World's Work*, *Everybody's*, the *Cosmopolitan*, and other periodicals and newspapers printed many articles which helped to arouse public opinion in favor of a pure food and drug act. Outstanding writers of such articles were Mark Sullivan, Walter Lippmann, Samuel Hopkins Adams, Edward Bok, and Upton Sinclair (5, 6).

President Theodore Roosevelt called

attention to the need for a pure food and drug act in his message to Congress in December 1905. Senate Bill 88 was introduced, which in modified form became the famous Pure Food and Drugs Act of 1906. The American Medical Association, the Patrons of Husbandry, the labor unions, General Federation of Women's Clubs, and the National Consumers' League worked actively for its passage. The sponsors of the bill claimed that the opposition came from the vendors of patent medicines, liquor dealers, cottonseed-oil products concerns, jelly manufacturers, and the like. There was also some opposition on the ground that the act was an extension of the power of the federal government to matters that should properly be left to the states. A substitute bill was introduced in the Senate through the efforts of an association of food manufacturers. This substitute did not receive favorable action. After a bitter struggle in both houses of Congress, the original act, considerably modified, was passed and went into effect on January 1, 1907. It was essentially a labeling act, controlling products by forbidding inaccurate statements on the label.

While Congress was considering the Pure Food and Drugs Bill, Upton Sinclair's book *The Jungle* (7) aroused President Theodore Roosevelt to appoint a committee to investigate the condition of the packing houses, and its report was not at all favorable to the packers. At first the packers tried to prevent the publication of the report, but President Roosevelt published part of it and asked Congress to adopt provisions for federal meat inspection as provided in the Beveridge Amendment to the Agricultural Appropriation Bill. Soon the packers changed their attitude and supported most of the provisions of the act—a change of heart due to the fact that foreign sales of meats were falling off as a result of publicity about the unsanitary conditions in the packing houses and the belief that inspection would help to win back the foreign market. The incident is typical of the force of the profit motive in prompting legislative efforts. There was a heated struggle as to whether the packers or the government should pay for the inspection, and the bill as finally passed placed this cost on the government. The act went into effect on July 1, 1906.

The history of amendments and supplements to the Pure Food and Drugs Law illustrates well the difficulties in securing satisfactory, enforceable laws adapted to actual conditions. Legislation is usually the result of compromise. Weaknesses in a law often appear when an attempt is made to enforce it and methods of evading it are discovered. New products and new marketing methods not covered by the laws make their appearance.

For some years after the passage of the act of 1906, Dr. Wiley disagreed with President Roosevelt and Secretary of Agriculture Wilson as to the administration of the act. Dr. Wiley was unrelenting in his attack on preservatives in foods, and the administration controlled the situation by appointing to various committees and boards of control men who opposed Dr. Wiley. He resigned his position in 1912.

The Sherley Amendment, enacted August 23, 1912, strengthened the original Pure Food and Drugs Act by extending control to cover false and fraudulent claims on the labels of patent medicines. The so-called net-weight amendment (Gould Act), passed on March 3, 1913, required that the net weight of contents of package be stated on the label of certain products. By the Kenyon Amendment of July 24, 1919, the jurisdiction of the net-weight amendment was extended to cover hams, sides of bacon, and similar meat products, when wrapped. In 1923 the Butter Standard Amendment was passed.

An act of January 18, 1927, transferred responsibility for the enforcement of the

Food and Drugs Act from the old Bureau of Chemistry to the newly created Food, Drug and Insecticide Administration. This name was changed in 1930 to Food and Drug Administration (8).

The Caustic Poison Act of 1927 provided for the regulation of the labeling of certain caustic poisons which go into interstate commerce. The Federal Import Milk Act of 1927 was passed to regulate the importation of milk and cream. According to U. S. Department of Agriculture Miscellaneous Publication No. 47, the work of enforcing this act is "centered at Rouses Point, N. Y., in the heart of the section through which comes most of the milk from Canada, the largest exporter of milk and cream to the United States."

The McNary-Mapes Amendment, popularly called "the canners' bill," was enacted July 8, 1930. It authorizes the Secretary of Agriculture to set up a reasonable standard of quality, condition, and/or fill of container for certain canned foods. It should be noted that this does not provide complete standardization even for canned goods. Only one quality standard is set for each class of canned goods, and if the product is below the standard it must be labeled substandard. At present the canners and the government officials are struggling over the question of further quality standards for canned goods that are to be promulgated under the Canners' Code (9).

A further amendment to the Pure Food and Drugs Act of 1906 was passed on June 22, 1934, to permit inspection and certification of canned sea foods. Under this

the Secretary of Agriculture, upon application of any packer of any sea food sold in interstate commerce, may at his discretion designate supervisory inspectors to examine and inspect all premises, equipment, methods, materials, containers, and labels used by such applicants in the production of such food. If the food is found to conform to the requirements of this Act, the applicant shall be authorized, in accordance with regulations prescribed by the Secretary of Agriculture, to mark the food so as to indicate such conformity.

Since this inspection is permissive, not compulsory, and since it places the cost of inspection upon the packer, the law will probably be ineffective, except as members of the industry may voluntarily seek its protection (10).

If conditions existing before 1906 are compared with those existing today, the virtues of the Pure Food and Drugs Act are clearly evident. This does not mean, however, that there is no room for improvement. The Food and Drug Administration has repeatedly pointed out weaknesses in the existing laws and has asked Congress to strengthen the laws as weaknesses are discovered. Some of them are:

1. Cosmetics as a class are not covered by the Act. Since 1906 there has been an enormous development of the cosmetic industry. Thousands of new products have appeared. Some cosmetics are harmful. Some of them are not injurious to most users but are very harmful to a few.

2. Advertising in general is not covered by the Act. If a manufacturer prints a false statement on the container of his product and then sends the product into interstate commerce, he violates the law. But if he prints the false statement in a newspaper, in a circular, or makes it in a radio broadcast, and does not make a false statement on the label attached to the product, he is not subject to prosecution under the Act. The Federal Trade Commission has certain regulatory powers over advertising, but these powers are too limited to afford adequate consumer protection.

3. With a few exceptions the law does not require a fully informative label; that is, it does not require the label to show the ingredients of the product unless it contains certain habit-forming drugs, and then only those drugs need be named on the label.

4. The law does not restrict the sale of drugs because they may be dangerous. The law does not even require a label of warning of the presence of many dangerous drugs. Many drugs used in proprietary medicines (patent medicines) when administered improperly may cause suffering or death. Many drugs should be administered only when the doctor can observe the effect on the patient. Drugs do not have the same effect on all

people. In spite of this, any quack can concoct and sell mixtures containing such ingredients as radium or thyroid extracts. Most physicians do not even attempt to administer radium; they leave this task to highly-trained specialists. Many people have injured themselves with thyroid preparations in the form of proprietary medicines.

5. Most obesity treatments (fat reducers) do not come under the Act. There is a great craze today to reduce weight, and many of the preparations and methods used are either harmful or positively worthless. Among these preparations are worthless reducing creams, belts, and other devices, as well as harmful salts and thyroid products.

6. According to the Supreme Court's interpretations of the Act, the mere presence of an added poisonous substance in food is not sufficient in itself to show that the food is adulterated. The amount of poison in any particular food must be in a large enough quantity to be harmful. Under these conditions it is now possible for a person to eat a number of different foods no one of which would be harmful but which taken together may cause a harmful amount of poison to be consumed. The consumer has, therefore, no protection against such cumulative poisoning.

7. It is not an offense under the present Act to send a drug into interstate commerce labeled with a false therapeutic (curative or healing) claim, unless the claim is also fraudulent. This means that in order to show in court that a statement is fraudulent, it is necessary to show that the person who made the statement knew it to be false. According to this interpretation, an ignoramus would be safer in the patent medicine business than a skilled scientist. The ignoramus could contend that, as far as he knows, his statements are true; that he never attended a medical school, never read a physiology book, knows nothing about drugs—in short, that he cannot tell one disease from another but he thinks his medicine is great. If the government cannot disprove his statement and show fraud, he cannot be prosecuted.

8. Some products may be shipped from one state to another without labels, and then be labeled in the state where they are sold without violating the federal law, even if they are adulterated.

9. If a distinctive name is used for a product that resembles but does not conform to the definitions set up for a given class of foods, it is immune from federal prosecution for failing to meet the requirements for that class. For example, in the case of a mixture which is intended to be used like jam or jelly but which does not meet the specifications for jams and jellies, no action can be taken if it is labeled by some such name as "bred spred" and not as a jam or jelly.

10. The legal standards for foods are very limited in their application.

11. Prohibition of deceptive packaging applies to only a few products.

12. Devices such as rupture belts, reducing appliances, electric healers, cosmetic devices, ear drums, magnetic blankets, vibrators, etc., are not covered by the Act. Millions of dollars are spent annually for devices either worthless or harmful. For example, spectacles and false teeth are now being sold by Chicago mail-order houses.

A thoroughgoing revision of the Act of 1906 was introduced into the 73rd Congress late in 1933 (S. 1944, commonly referred to as the Tugwell Bill). This covered cosmetics and appliances as well as foods and drugs, advertising as well as labeling, and set up grade standards for canned foods. It aroused strong opposition among some of the interests affected and was the subject of much public discussion. Strategy similar to that used when the original law was being debated in 1906 (see page 170) led to proposals for modifications and to the introduction of substitute measures (for example, the so-called Copeland Bill S. 2800), but the matter did not come to a vote before the close of the Congress (11, 12, 13). On January 3, 1935, Senator Copeland introduced into the new 74th Congress a similar bill, S. 5, known as the Federal Food, Drugs, and Cosmetics Act. The forces for and against it will probably be much the same as those for and against its predecessors of 1933 and 1934. Will the profit motive or consumer interests dominate?

REFERENCES

1. DUNN, C. W. *Food and Drug Laws.* Vol. 1. New York: U. S. Corporation Co., 1927–1928.
2. WEBER, G. A. *The Food, Drug, and Insecticide Administration.* Washington, D. C.: The Brookings Institution, 1928.
3. WILEY, HARVEY W. *An Autobiography.* Indianapolis: Bobbs-Merrill Company, 1930.

4. WILEY, HARVEY W. *The History of a Crime*. Washington, D. C.: The Author, 1929.
5. REGIER, C. C. *Era of the Muckrakers*. Chapel Hill, N. C.: University of North Carolina Press, 1932.
6. SULLIVAN, MARK. *Our Times*. New York: Charles Scribner's Sons, 1927.
7. SINCLAIR, UPTON. *The Jungle. New Edition*. New York: Vanguard Press, 1926.
8. The Food and Drug Administration of the United States Department of Agriculture. U. S. Department of Agriculture Miscellaneous Publication No. 48, January, 1931, 20 pages.
9. JOURNAL OF HOME ECONOMICS, Vol. **26**. SHOOK, F. M. Grades on Labels of Canned Foods, (1934, February) pages 98–100; Editorial, Grade Labels and the Code of the Canning Industry, (1934, April) page 235; WILLIAMS, PAUL M. Standards for Agricultural Products, (1934, December) pages 612–616.
10. HOWE, HARRIET R. Food and Drug Legislation and Home Economics Clubs. JOURNAL OF HOME ECONOMICS, Vol. **26** (1934, November) pages 559–560.
11. Hearings before a Subcommittee on the Committee on Commerce, United States Senate—S. 1944. *Congressional Record*, 73rd Congress, Second Session, pages 9216–9227.
12. Hearings before the Committee on Commerce, United States Senate—S. 2800. *Congressional Record*, 73rd Congress, Second Session, pages 9216–9227.
13. Editorials on the revision of the Food and Drugs Bill. JOURNAL OF HOME ECONOMICS, Vol. **26** (1934) pages 32, 103, 104, 106, 169, 292, 520.
14. [A symposium]. Pure Food and Drugs Act. *Law and Contemporary Problems*, Vol. **1**, No. 1 (1933).

LAND-GRANT INSTITUTIONS AND RURAL SOCIAL WELFARE

PART II. EXTENSION TEACHING

DWIGHT SANDERSON

THE extension service in agriculture and home economics is an agency of the land-grant colleges which makes it possible for them to render an unusually broad service for rural welfare.

The training of extension workers, particularly on the graduate level, should be broadened so that they will have a better knowledge of rural welfare problems and how they may include them in their programs of extension work. We have trained good technicians in agriculture and home economics, but the present situation demands that county agents be trained as all-round leaders of rural life. This is particularly true of the considerable number of young men and women who are now going into the county welfare administrations as rural rehabilitation agents. Although this service is too new to predict its future organization, it does seem evident that there will be a permanent need for this sort of personal service in agriculture and home economics for the marginal class of rural people who are not reached by the ordinary methods of the extension service. Those who are to be successful in the rehabilitation program will need a good working knowledge of the essentials of agriculture and homemaking technology, but they will also require an equal knowledge of human nature, of psychology, sociology, family relations, and the principles of social case work. In so far as this work becomes permanent the land-grant colleges will need to equip themselves for training in these subjects, for there seem to be no other institutions so well fitted for training the type of rural rehabilitation agents needed, whether in regular courses for resident students or by short courses for those now employed who need supplementary training. There will be a definite need for this service for some years to come, and under whatever auspices it is organized the state extension services in agriculture and home economics will be largely responsible for its subject matter and guidance.

Before the rehabilitation service was organized many county agents were giving valuable assistance to local relief officials, but there is a larger opportunity for such service than has been realized. The home demonstration agents may advise relief administrators with problems of nutrition, budgets, clothing, and other aspects of homemaking, and the agricultural agents may assist in planning home gardens and with counsel concerning rehabilitation plans and policies. Obviously the extension agents may do much to promote a new concept of rural welfare by interpreting through their teaching programs the results of research on the topics mentioned in Part I.

As a result of the depression there has been an increasing demand for training and guidance in recreational activities. Rural folk do not have so much money for commercial amusements, and they are coming to learn that they can have more fun in those recreational and social activities in which they participate. As evidence of this, at the conference of farm women held under the auspices of the American Country

Life Association on November 16 and 17, a farm woman from northern Minnesota told of the fine work they had been doing in rural recreation and stated that every county should have a trained recreation leader. She also suggested that practical training in recreational leadership should form part of the college preparation of both men and women who plan to enter extension work. Games, drama, folk dancing, community singing, choruses, athletic meets, and community entertainment programs have become increasingly popular. The county agents have an opportunity to help rural people to enjoy living as well as to teach them the means of living. Indeed, do people know how to live, if they do not know how to enjoy life?

We have seen the need for research as a basis for rural planning, but if rural planning is to get beyond the blue print and really function it must be adopted by the rural people themselves. Plans are not easily imposed upon them. Here the extension service can aid in both local and national planning.

Before local planning can be undertaken there must be some form of organization to support it; local planning is a function of community organization and is an essential step in a program of national recovery.

Toward the close of the World War an extension system of community organization was sponsored by the state and county councils of defense, but as it was chiefly projected for war purposes it collapsed soon after the signing of the armistice. Today there is an equal need for community organization to cope with the social welfare problems which confront every community, and the Armistice Day of this war is, unfortunately, in the distant future and is not to be attained by force of arms but through mutual good will. One of the most serious aspects of the relief situation is the abandonment of local responsibility by community organizations with the attitude that it is the "government's job" to furnish relief. It must be apparent that such an attitude is fatal to social recovery. No amount of money or expert guidance can replace local initiative and responsibility. There is an immediate need for reviving community spirit and making a collective attack on our local social problems. The community chests and councils of social agencies have done much to foster this spirit in the cities. The same sort of thing is needed in a different form of organization in our rural communities. No agency is in so favorable a position to initiate such a movement, without seeking to dominate it, as the extension service.

In the field of national planning the extension service has an equal opportunity of interpreting the proposed plans to its constituents and of assisting them to learn how properly to evaluate these proposals. In a democracy planning is not merely a matter for experts. Under a fascist regime a "brain trust" might dictate plans, but under a democracy no plans involving important changes of public policy, however meritorious, can be brought to successful fruition unless they reflect the desires and are supported by the best judgment of the people. The difficulty is that upon many of the new proposals even the more intelligent people do not know how to think, for the issues are often obscured by the propaganda of political, economic, or class groups.

Does the extension service not have a responsibility for giving its constituents an opportunity to learn how to think together on the many social and economic problems upon which they are now forced to make decisions? Certainly, the extension service cannot become a propaganda agency for or against the New Deal or any other political point of view; but cannot it aid its constituents to an intelligent understanding of the issues involved by furnishing materials and

methods for non-partisan discussion groups?[1] This has already been attempted with some considerable success in Wisconsin, a state which seems to be particularly favorable to such an experiment. Unquestionably such a program offers serious difficulties of policy and requires the wisest guidance if it is not to defeat its own objectives; but, recognizing the difficulties, should the extension service neglect the opportunity? We have fostered an educational program concerning cooperation. Can we do less for the problems of agricultural adjustment, subsistence farming, relief organization and policies, employer-labor relations, unemployment, old-age and health insurance, corporation control, banking and finance, and other problems of national and international recovery which our people must decide? What is most needed at the present time is to stimulate sound thinking, to foster a willingness to face the facts and create a responsibility for attempting their integration. Farmers have had a long training in being forced to face the facts of life. If the extension service can furnish the relevant facts on both sides of these issues and show how they may be profitably discussed so as to produce "light" rather than "heat," will it not perform a service for which no other public agency is now so well equipped, and can it not trust the results to vindicate such a program? We have fostered scientific thinking on the subject matter of agriculture and homemaking. Can we not introduce the scientific method into analysis of current issues? If this can be accomplished it will furnish the best check upon the well-meant but immature plans of social and economic theorists and will insure that support which is necessary if social planning is to be recognized as a normal process for the emergence of a true democracy.

[1] For excellent discussion outlines see *Must the Nation Plan*, BENSON Y. LANDIS. New York: Association Press, 1934. [Noted on page 51 of the January JOURNAL.]

VEGETABLES IN THE DIET

II. TODAY

SYBIL L. SMITH

WITH the beginning of the twentieth century mineral constituents of foods came to the fore. At the same time kitchen gardens were being supplemented by ever enlarging market gardens, and methods of transportation and preservation of such perishable foods as vegetables were being improved.

In a paper entitled "Green Vegetables and Their Uses in the Diet" written by Dr. Langworthy, then chief of nutrition investigations of the Office of Experiment Stations, for the 1911 Yearbook of the Department of Agriculture, just fifty-five years after Mrs. Beeton's *Book on Household Management*, the nutritive value of these foods and the progress made in their production and consumption were summarized as follows:

> They do not add greatly to the total nutrients and fuel value, except in relation to the cost, but they do increase the wholesomeness of the diet in three ways, namely, by supplying it with necessary mineral matters less abundant in some other common food materials, by providing bulk desirable for the normal digestion of the more concentrated food materials, and by making the diet more varied and attractive. The last is probably the most important point in the ordinary mixed diet of persons in normal health living under the usual conditions.
>
> One of the marked differences between the daily fare today and that of 50 years ago consists in the increased supply of green and succulent vegetables, a class of food used, as their name implies, for their refreshing and palatable qualities more than for their total nutritive value. Not many years ago the winter's supply of vegetables in all except southern countries was limited to root crops and a few other staples, such as onions and cabbage, which could be kept in the cellar in comparatively good condition. New and improved varieties, better methods of cultivation, improvements in transportation and storage, the great development of market gardening under glass, and the development of the canning and preserving industry have made succulent vegetables common throughout the year and available in one form or another for almost every family.

It was in 1911 also that the first edition of Sherman's *Chemistry of Food and Nutrition* was published, and here we find a discussion of the function of the "necessary mineral matters" of which Langworthy speaks. Vegetables were discussed primarily from the standpoint of their iron content, and it was pointed out that the low content of protein, fat, and carbohydrate in green vegetables is really an advantage in that these vegetables can be added to the diet in considerable proportions as sources of iron without curtailing other foods or making the food consumption excessive. The need of calcium and phosphorus for maintaining proper equilibrium of the body fluids and tissues and for bone building was emphasized, and although milk was considered the most important source of these elements, attention was called to certain vegetables as important supplementary sources.

The theory of the acid-base balance of foods, which was discussed at some length, furnished another logical explanation of the benefits derived from the use of vegetables (and fruits) in the diet. It was shown that meat, eggs, and cereals form an acid ash on burning (either in the laboratory or the body) and fruit and vegetables an alkaline ash. Since a diet in which the acid-forming elements greatly predominate must result in a withdrawal of fixed alkalies from the

blood and tissues or an increased circulation of ammonia salts in the body, neither of which is advantageous, reasoned Sherman, "it therefore seems desirable that in constructing a dietary the foods in which the acid-forming elements predominate should be so balanced by foods having a predominance of bases that the diet as a whole may yield sufficient bases to neutralize the mineral acids produced in its metabolism."

This doctrine and the growing emphasis on the needs of the body for calcium and iron, in which most fruits and vegetables are fairly rich and green vegetables strikingly so, put vegetables on their feet, nutritionally speaking. There was no longer any need to theorize concerning their place in the diet. For a time, the acid-base balance of foods became almost as important to calculate in planning a diet as had been the calories or protein content.

The decade from 1910 to 1920 was noteworthy for its contribution to teaching material concerning foods, for in addition to Sherman's *Chemistry of Food and Nutrition* there appeared during this period the first editions of his *Food Products*, of Mrs. Mary Swartz Rose's *Feeding the Family*, and of McCollum's *Newer Knowledge of Nutrition*. In *Food Products* Sherman again emphasized the value of fruits and vegetables for their mineral or ash constituents and gave tables showing their excess of base-forming elements. He suggested that in order to be on the safe side concerning acid- and base-forming foods it would be well to allow at least as much money for the purchase of vegetables, fruits, and milk as for meat, fish, and eggs.

It was in the latter part of this decade that vitamins began to be recognized as essential food constituents, with fruits and vegetables as important sources. It is interesting now to see how completely emphasis shifted for a time from the acid-base balance theory to the vitamin theory concerning the nutritional importance of fruits and vegetables. In the second edition of *Chemistry of Food and Nutrition*, published in 1918, Sherman makes the comment:

> The benefit to health which so generally results from a free use of milk, vegetables, and fruit in the diet may be attributable in part to the fact that these foods yield alkaline residues when oxidized in the body, but this point should not be too greatly emphasized, for there are several other respects in which the eating of liberal amounts of milk, vegetables, and fruits is certainly beneficial, notably in supplying calcium, iron, and vitamins and in improving the intestinal condition.

For a time vitamin A was considered the only vitamin for which special provision need be made in the diet. Since milk and the green leafy vegetables were found to be rich in vitamin A, as well as in calcium and iron, McCollum suggested in the first edition of *The Newer Knowledge of Nutrition*, published in 1918, that these be considered as protective foods. In introducing this term, which was to prove so useful a catchword, he said:

> It is fallacious reasoning to attempt to compare the money value of certain foods with certain others. We may safely compare the cost of the cereal grains or the legumes with each other, or with the tubers such as the potato or the sweet potato, or with the root foods. It is not possible to compare the cost of any of these with milk or the leafy vegetables such as cabbage, cauliflower, Swiss chard, collards, Brussels sprouts, onions, lettuce, celery tops, spinach, turnip tops and other leaves employed as greens. Milk and the leafy vegetables are to be regarded as protective foods, and should be taken in liberal amounts. The leaves should not be regarded as foods of low value because their content of protein, fat, and carbohydrate is low, and the content of water high. When compared on the basis of chemical composition, they appear inferior to seeds, but they have a peculiar value in their high content of fat-soluble A and of mineral elements, which makes them stand in a class by themselves among the vegetable foodstuffs.

In 1925 the articles in the Yearbook of the Department of Agriculture were given over almost entirely to fruits and vege-

tables. This volume should still be of interest for it contains, along with current statistics, much of historical nature concerning the development and evolution of the vegetable industry in the United States, not to mention a forward-looking discussion of adjustment of production to meet consumption demands. Among the articles was one entitled "The Nutritive Value of Fruits, Vegetables, and Nuts," contributed by the late Caroline Hunt of the Bureau of Home Economics. Discussing one by one the food needs of the body, Miss Hunt showed where the members of this group of foodstuffs fit in. Let us see what she had to say for vegetables:

In regard to fuel or calories she pointed out, as had Sherman and McCollum, that the low fuel value of most fruits and vegetables is a very great advantage and an almost unanswerable argument for their greater use in providing minerals and vitamins without adding significantly to the calories. Vegetables are not so lacking in proteins as has been taken for granted, she explained, but in none of the vegetables, with the exception of soy beans, is the protein complete or efficient; consequently, vegetables must be supplemented by animal protein food. Fruits and vegetables are valuable for their bulk and indigestible residue, and although they compete to a certain extent with the whole cereal foods and bran in this respect, a combination of cereals with fruit and vegetables makes a more palatable and satisfactory source of roughage than does bran alone. Miss Hunt's stand in regard to acid-base balance was that while the body is capable of maintaining its alkaline reserve without the aid of base-forming foods, it is just as well not to depend too much on this power but to maintain the proper balance between acid-forming and base-forming foods by proper food selection.

Miss Hunt was not a rabid propagandist for fruits and vegetables, for in discussing minerals she pointed out that milk and cheese are more useful for supplying calcium than are any of the vegetables; that lean meat and eggs compare favorably with many of the fruits and vegetables as sources of iron; and that whole grain cereals and many animal foods are important as sources of phosphorus. This refers to individual foods, she explained, but when the diet as a whole is considered with its sugar and fat, which add nothing to the mineral value, there is a tendency for calcium, phosphorus, and iron to fall below requirements unless fruits and vegetables are present in considerable amounts. She suggested as a liberal allowance that 20 per cent of the total calories or about 600 calories per man per day should come from vegetables and fruits. As a help in picturing what this allowance means in actual food quantities, she gave the caloric value of a few varieties of fruits and vegetables: an average-size white potato, a small sweet potato, a large apple, and ½ grapefruit, 100 calories each; ½ pint strawberries, 50; a large serving of asparagus, 25; four leaves of lettuce, 10; ½ cupful of cooked spinach, 20; ½ cupful of shelled peas, 70; and ½ cupful of stewed tomatoes, 25. All told, these amount to only 600 calories—or what she considered to be a day's allowance for an average man.

As to vitamins, Miss Hunt called attention to the importance of green leafy vegetables as a source of vitamin A and suggested that the fact that people have always taken considerable trouble to get greens is an indication that this form of vegetable filled a need that was felt long before it was understood. This recalls the medicinal virtues that were ascribed to various greens by Lemery two hundred years ago. Tomatoes were emphasized by Miss Hunt as an exceptional source of vitamin C because they can be cooked without loss of this vitamin, which is not the case with most vegetables. Her most important points concerning vegetables as a source of vita-

mins were rapidity and simplicity of cooking—rapidity to prevent destruction of the heat-labile vitamins and simplicity to avoid undue increase in calories at the expense of the vitamins. As an illustration of this point she called attention to the fact that a 100-calorie portion of a creamed vegetable seldom supplies more than 20 calories in the form of the vegetable. Such a dish, however, has its place in the "vegetable plate" which was becoming increasingly popular at that time as a luncheon or even a dinner dish.

Miss Hunt's suggestions as to advisable combinations in the vegetable plate from the standpoint of composition, flavor, and texture are worth recalling in these days of cafeteria service with its opportunity of selection from a long list of vegetables. One of the vegetables she said should be either beans or peas, which are comparatively rich in protein, or one served with some food rich in protein such as cauliflower or potatoes scalloped with cheese, or spinach with hard-boiled egg, or sweet corn pudding made with milk and eggs. As to flavor, one vegetable of mild, one of pronounced, and one of sour flavor or served with vinegar should be the rule. For texture there should be both crispness and smoothness. Perhaps if these suggestions were followed more consistently the vegetable plate would attain even wider popularity than it has already. As it is, I think it has done more than anything else to increase the consumption of vegetables at lunch, the quick meal of the professional and business class. In a popular lunch cafeteria near the Department of Agriculture the list of foods usually includes two choices of meat, one of fish or other sea food, seven of vegetables, and five or six salads, in addition to soup and desserts. Each vegetable portion costs ten cents and a combination of any three twenty cents. The combination vegetable plate is quite popular, but I wonder how closely Miss Hunt's suggestions concerning composition, flavor, and texture are followed in the selection of the three vegetables.

What changes, if any, have taken place since 1925 in our knowledge of the nutritive value of vegetables and the place they should occupy in the diet? A glance at the fourth edition of Sherman's *Chemistry of Food and Nutrition* (1932) and the third edition of his *Food Products* (1933) will help to answer these questions. It is significant that nearly half of the first of these books is devoted to the two groups of food constituents in which vegetables are preeminent—minerals and vitamins. Acid-base balance is again given attention. In addition, calcium and phosphorus have a whole chapter, and there is a chapter on iodine. Copper has been added to iron as essential for hemoglobin formation, and it is noted that although the quantity in any food is small, vegetables rank well with other foods of like moisture content as a source. There are now six vitamins to be discussed, with a chapter for each. Of these, vitamin D is the only one to which vegetables contribute little. However, even with vitamin D vegetables play a part, for this vitamin would be ineffective without calcium and phosphorus, mineral elements provided so generously by vegetables.

Turning to the 1933 edition of *Food Products*, we find that vegetables have a whole chapter to themselves, as their increased importance deserves. Here attention is called to the tremendous increase in production and consumption of fresh vegetables which can be judged by such figures as that shipments of green peas increased in twelve years from 691 to 5,000 carloads and that lettuce shipments increased from 13,788 carloads in 1920 to 55,636 in 1930. Lest nutritionists attribute this change too largely to their preaching the gospel of protective foods, it might be well to note what the Bureau of Agricultural Economics

gives as the factors involved. As quoted by Sherman these are:

> (1) Development of large-scale production in new areas which supply fresh fruits and vegetables when home-grown or locally-grown produce is not available; (2) increasing popular appreciation of the value of greenstuffs in the diet; (3) continued improvement in grading, packing, and handling on the way to the retailer; (4) more general display of these goods by chain grocery stores; and (5) distribution by motor truck to small towns, even to individual farm and village families.

A tendency to use the term vegetables indiscriminately, as if they were all alike, would be corrected by studying this vegetable chapter, for in it the vegetables are classified by types, with the special contribution of each—legumes for protein, vitamin B, phosphorus, iron, and copper; seed pods, such as string beans and green peppers, for their richness in vitamins A, B, C, and G; bulbs, roots, and tubers for their cheapness and varied contributions; leafy vegetables for their low fuel value associated with their richness in all of the essential mineral elements and vitamins; flowers, buds, and stems (including asparagus, broccoli, cauliflower, and celery) of varied composition, but in general somewhat less rich in vitamins than the leafy vegetables; and finally fruits used as vegetables, with tomatoes of special importance on account of their richness in vitamin C.

The earlier recommendation to allow as much money for the purchase of vegetables, fruits, and milk as for meat, fish, and eggs has been replaced in the new edition of *Chemistry of Food and Nutrition* by one emphasizing more the unique value of milk. "(1) At least as much should be spent for milk (including cream and cheese) as for meats, poultry, and fish, and (2) at least as much should be spent for fruits and vegetables as for meats, poultry, and fish." In terms of calories Sherman has more recently recommended that at least half of the needed calories should be in the form of the protective foods—milk, fruits, and vegetables.

For those who wish more detailed food budgets rather than these simple rules, a recent publication of the Department of Agriculture can be recommended. This is Circular 296, "Diet at Four Levels of Nutritive Content and Cost," by H. K. Stiebeling and M. M. Ward of the Bureau of Home Economics. The four diets presented include a restricted diet for emergency use (which makes no claim for adequacy but represents the best possible selection on inadequate food allowance), an adequate diet at minimum cost, an adequate diet at moderate cost, and a liberal or optimal diet. Of the food items in which we are particularly interested, how does the per capita allowance vary with increased cost of the diet as a whole? In the distribution of calories among the food groups, fruits and vegetables increase from 14 per cent of the total calories in the restricted diet to 15 per cent in the minimum-cost adequate diet, and 18 per cent in the adequate moderate-cost and liberal diets. A table giving the yearly per capita allowances in pounds shows practically the same allowance of potatoes and sweet potatoes in all four diets, a decrease in legumes and nuts with increase in cost and adequacy, a decided increase in citrus fruits and tomatoes and in leafy green and yellow vegetables in the adequate (moderate cost) and liberal diets, and a progressive and marked increase in other vegetables and fruits from the emergency diet to the liberal diet.

Stiebeling and Ward state that as far as can be judged from available data, the retail money value of the food consumed by the majority of the families in the United States between the years 1922–1929 was between the values of the minimum and moderate-cost adequate diets. Assuming the most intelligent selection of foods at this level, the consumption of all vegetables other than dried legumes was lower than it

should have been to meet the accepted nutritive requirements. They say:

> Among the foods which are consumed in far less than desirable amounts, milk, certain fruits, and many of the leafy vegetables stand out prominently. The consumption of milk per capita indicated in the adequate diet at moderate cost and the liberal diet is nearly twice the present consumption, while from the standpoint of health the use of certain fruits and vegetables should be increased several fold.

In the August 1934 issue of the *New Outlook* there is an article by R. R. Doane entitled "But Is It Surplus Economy?" which gives a report of the findings to date of the National Survey of Potential Product Capacities. Economists working on this survey have taken the liberal diet in Circular 296; and from the annual per capita allowance of the various food groups given therein, the estimated population of the country, and the production values of the peak year 1929 they have calculated the deficits or surpluses of production of various food groups in terms of requirement. Of the fruits and vegetables there are surpluses in potatoes and in the high protein group, of beans, peas, and nuts. The deficits in the other groups are astounding—1,382,-296,000 pounds for tomatoes and citrus fruits; 7,300,936,000 pounds for leafy green vegetables; 12,326,000,000 pounds for other vegetables and fruits. These figures show that in the diet of today certain vegetables do not figure so prominently as they should if optimal nutrition is the goal.

(*To be concluded*)

TENTATIVE REVISION OF THE SYLLABUS OF HOME ECONOMICS

The committee appointed by the American Home Economics Association to bring up to date the syllabus of home economics prepared in 1913 presents herewith the outline for the third of the five subject matter divisions.

As was explained on page 11 of the JOURNAL *for January, 1935, in connection with the outline of the first division, these division outlines are being prepared independently by the subcommittees in charge and are being published as they come in rather than in their final, logical order.*

It should be remembered that the present form is tentative merely, and is put out in the hope that it will be tested by use and that resulting criticisms and suggestions will be reported to the committee for consideration when the final form is decided upon. For a similar reason the typographical arrangement of this division has been left somewhat different from that used for the division on the family and its relationships.

It must be remembered also that the syllabus is intended to be a subject matter outline, not a teaching outline. Its use at various educational levels or in other ways will depend upon the completeness of the outline itself and the initiative and judgment of those who use it. It is hoped that it will prove useful to elementary, secondary, and college teachers, to those responsible for adult classes, and to others concerned with home economics subject matter.

The subcommittee in charge of the present outline, that from the division on the house, consists of Maud Wilson, chairman, Irma Gross, Myrtle Gunselman, and Grace Morin.

Criticisms and suggestions may be sent to Miss Maud Wilson, Oregon State Agricultural College, Corvallis, or to the chairman of the main committee.—WYLLE B. MCNEAL, *University of Minnesota, chairman of the committee on revision of syllabus.*

III. THE HOUSE

THE outline here presented is a development of the idea that the family dwelling provides the setting for the family life on which the satisfactory development of the individual depends and that in questions of housing the needs of the family take precedence over, though of course they do not eliminate, other considerations. From this it follows that the setting up and recognition of standards based on this idea is an essential element in the development of adequate housing facilities.

This conception of housing demands that consideration be given not only to the environs, construction, and equipment of the house, but also to the nature and strength of the economic and social forces concerned in creating and maintaining a home. It further shows that the function of home economics in relation to housing is not only to train individual homemakers in the choices and technics connected with the housing of the family but also to prepare leaders to define standards and work for their adoption. Stated in another way, the functions of home economics in relation to housing may be said to include the promotion of knowledge regarding the technological and social problems of the home as the setting of family life and the securing of recognition of this conception of housing by those concerned with the production, control, and use of family dwellings.

A. SIGNIFICANCE AND SCOPE OF SUBJECT

1. Relation to functions and conditions of the home: health; education and personality development; morale; stability of family organization; character of community life
2. Economic and social considerations
   a. Housing as an index of social progress: implications; ideals
   b. Housing of citizens as a concern of government: reasons for concern; nature of responsibility assumed by government
   c. Housing facilities as a form of wealth: extent of investment in housing in representative countries; industries involved and magnitude of operation of each
3. Esthetic considerations
   a. Relation of beauty in the house to value of investment and to pleasure, satisfaction, and personality development
   b. Relation of beauty to function in the surroundings, construction, and equipment of the house
   c. Aspects of art which find expression in the house.
4. Importance of further study, investigations, and research
   a. Subjects awaiting investigation: technological; sociological; economic
   b. Cooperation of home economics agencies: choice of problems; special qualifications of home economists
5. Approach of home economics to housing
   a. Through study of problems connected with the dwelling as the setting for family life.
   b. Through education of producers and consumers

B. PAST DEVELOPMENT AND PRESENT STATUS OF HOUSING FACILITIES

1. General factors influencing development
   a. Natural resources and climatic conditions as they affect use of land and design of dwellings
   b. Economic and social factors: relation of housing facilities of various regions to stage of development of inhabitants, differences in family organization, and race and class distinctions; influence of political conditions, land utilization policies, location of industries, and power development; prevailing relationship between family income and money spent on the dwelling; effect of limitations in income on housing facilities
2. Present conditions
   a. Households of the United States: their numerical distribution as to size and composition and as to occupational status
   b. Factors responsible for variations in housing facilities: resources, including land, water, fuel, power, building materials, labor, and capital; requirements for health and comfort of dwellers and for care and storage of household articles; family incomes; family customs, habits, and attitudes; location of industries and residential areas; desirability of home ownership as compared with renting
   c. Present status of housing facilities: types of dwellings; amount of land, house room per person, sunlight and air, equipment, surroundings, and means of transportation; ownership of homes; proportion and distribution of population now living in unhealthful dwellings, and social groups most seriously situated in this respect; esthetic quality of the private dwelling

C. STANDARDS FOR DWELLINGS

1. Objectives which standards are intended to promote.
   a. Efficient functioning of the house: as the center of family life; as a safeguard to health, comfort, and general welfare of members of the household; as a place for production of goods and services used by the household
   b. Efficient use of resources for establishment and maintenance of the house: time and energy; money; material resources
   c. Beauty in environment
   d. Welfare of community
2. Standards generally accepted in the United States at the present time
   a. Conditions to which they apply: location, environs, design, and construction of the house; use of community utilities
   b. Form: laws; codes; recommendations of authoritative agencies

3. Influential factors
   a. Resources utilized in home building: land, building materials, etc.
   b. Technological developments; advances in building industry; development of transportation facilities
   c. Agencies disseminating information and propaganda: radio; the press; schools and colleges; home information services and centers; demonstrations and projects; government agencies
   d. Community support and cooperation: restrictions on location, type, construction, and use of houses
   e. Financial considerations: family incomes; current price levels; returns from investments in housing; taxes; methods of financing home building projects
   f. Prevalent standards of family living

D. HOUSING IMPROVEMENT

1. Responsibility for improvement
   a. Of home owner: plan for financing of erection and maintenance; functionally and esthetically desirable design
   b. Of community: town or city planning; provision of utilities; equitable distribution of taxes; financial aid to home builders; encouragement and control of private agencies; protection of property from damage and trespass
2. Large-scale housing improvement programs and underlying problems and attempted solutions: correction of blighted areas and slums; control of growth of cities; improvements in methods of land subdivision; efforts to bring adequate facilities within reach of every family
3. Education
   a. Need of increased understanding of housing conditions, requirements, and standards, especially for low-cost housing
   b. Efforts of governmental agencies, schools and colleges, and other organizations, and their evaluation in respect to educational need, opportunities, responsibilities, and results
   c. Responsibility of home economists for interpreting the function of the house as primarily to provide the setting for family life and for securing recognition of this principle and its implications among: architects, builders, and house furnishers; manufacturers and dealers in building materials, equipment, and furnishings; household finance agencies; housing officials and government agencies concerned with housing; leaders of consumer, parent education, adult homemaking, and extension groups; school and college teachers

E. FINANCIAL ASPECTS OF HOME BUILDING AND HOME OWNERSHIP

1. Methods of financing homes
   a. Credit facilities: lending agencies; types of loans; methods of appraisal; legal restrictions and governmental aids now existing, and those needed
   b. Size of loans in relation to value of property and to means of borrower
2. Cost of building and operating a home
   a. Factors influencing cost of site, structure, and maintenance of single-family and multi-family dwellings
   b. Customary apportionment of costs for site, house itself (also its various parts), fundamental equipment, furnishings, and improvement of grounds
   c. Cost of community services
   d. Comparative costs of various methods of housing the family: ownership versus renting; multi-family versus single-family dwellings

F. DESIGN AS AN ELEMENT IN HOUSING

1. Domestic architecture
   a. Definition
   b. Styles of architecture: identification; development in sections of the United States; adaptability
2. Exterior design and house planning
   a. Enumeration of influencing factors
   b. Advantages of good design
   c. Obstacles to good design
   d. Methods, agencies, and objectives in the control of design
   e. Standards
   f. Function of the architect
3. Interior design
   a. Historical development, present status and trends
   b. Function of the interior decorator

4. Landscape architecture
   a. Historical development, present status and trends
   b. Factors influencing landscape design
   c. Function of the landscape architect

G. HOUSE PLANNING

1. Functions of the house
   a. Historical changes
   b. Present status: relation to production of goods and services and to group and individual living; changes during the life of a family; enumeration of major functions for households of types prevalent in the United States
2. Objectives in planning house and its units
   a. Provision for individual and group living
   b. Provision for efficiency in performance of household activities
   c. Provision for storage of articles in the house for prevention of deterioration and for efficiency in use
3. Data required for precision in planning functional units and equipment
   a. Body measurements of users
   b. Currently accepted rules for arrangement from standpoint of efficiency in functioning
   c. Scale of operation for major household tasks: food processes, laundry, sewing, etc.
4. Specifications needed to secure the effective functioning of the house and its equipment
   a. As regards site
   b. For specific conditions: air treatment; admission of sunlight; control of sound; water supply; disposal of waste; use of electricity and gas; protection against fire, extreme climatic conditions, and invasion by pests
   c. For the adaptation of parts of the house and major equipment to specific household tasks and family activities and interests: food preservation and meal preparation and service; laundry work, sewing and mending, and other work with clothing and household textiles; other handicrafts; household planning and record keeping; privacy, sleep, and rest; care of person; play of children; reading and other uses of leisure; hospitality; use of telephone; storage of equipment and supplies used in connection with activities carried on at home, of personal possessions, and of automobile and other equipment used in connection with outdoor activities
   d. For general dimensions of parts of house, as determined by requirements of occupants
   e. For parts of home grounds: service area; playgrounds; areas used by adults
5. Changes in housing needs during the life of the family
   a. In respect to rooms: number; kind; arrangement
   b. In respect to equipment: kind; size
   c. In respect to surroundings
6. House plans and their adaptation to specific situations
   a. Factors to which plans must be adapted: activities carried on at home; size and composition of household; living habits and social customs; permanency of abode; availability of public utilities and services; combination of the home with income-earning enterprise
   b. Plans for detached houses typical of those in general use in different regions of the United States
   c. Plans for apartment houses for families with children
   d. Plans for households or situations differing from the usual with respect to
      (1) Composition of household: unusually large families; three-generation households; childless couples; unmarried persons; elderly persons
      (2) Occupation: workers in specific industries such as mining; farm owners and year-round and seasonal agricultural laborers
      (3) Unusual requirements for the entertainment of guests
      (4) Habitual employment of servants
      (5) Situations in which commercial substitutes for household services are or are not available and freely used: shops selling ready-to-serve foods; restaurants; laundry and dry-cleaning establishments

(6) Situations in which the cost of electricity prohibits its extensive use, and those in which it permits exceptionally free use
(7) Connection of dwelling with shop, office, or factory
(8) Special recreational purposes: vacation cabins, cottages, camps

e. Plans for houses to be built a part at a time
f. Plans for institutional housing, with emphasis on the creation of home atmosphere

H. HOUSE BUILDING

1. Procedure in building
   a. Determination of cost: methods of estimating; relative costs for various types of construction
   b. Plans and specifications: purpose; method of preparation
   c. Available methods of getting work done, with comparisons as to cost and quality of work
   d. Responsibility of home owner
   e. Building inspection: agencies concerned and the purpose of each
2. Construction
   a. Types: distinctive features and standards; advantages and disadvantages
   b. Standards: general objectives; specifications for foundations, walls, roofs, etc.
   c. Building practices: objectives; steps in construction; standards for workmanship
3. Materials
   a. Framing and exterior: factors in choice; kinds used and qualities, standards, and costs of each; newer developments in materials
   b. Walls and floors: factors in choice; kinds used, with qualities, standards, and costs of each; newer developments in materials
4. Application of mass-production methods to house building
   a. Shop fabrication of building materials and of parts or units of structure: present extent of use and outlook for future; comparison of shop-fabricated and custom-made units as to cost and quality of product
   b. Large-scale operations: description; controlling factors; comparison with small-scale operations

I. UTILITIES AND FUNDAMENTAL EQUIPMENT

1. Facilities for sanitation
   a. Water supply: source; quality; amounts needed for household uses; methods and standards of transmission and delivery
   b. Waste disposal: municipal systems for disposal of garbage and sewage; methods for isolated houses
   c. Plumbing fixtures: design; costs; installation factors
2. Utilities furnishing heat, light, and power
   a. Electricity: household uses; production; house wiring
   b. Gas: household uses; sources; production; piping
3. Provision for artificial illumination: prevalent methods, with general extent of use, efficiency, and fixtures and other equipment for each
4. Provision for air conditioning
   a. Heating: available methods for groups of houses, groups of rooms, and single rooms; mechanics of heat production and transmission; installation
   b. Ventilating, humidifying, cooling, and cleaning air: devices now on market, and choice for particular situations
   c. Air-conditioning assemblies
5. Provision for refrigeration
   a. Methods of lowering temperature: ice and other refrigerants; other means
   b. Evaluation of refrigerators and other cooling devices
   c. Selection and installation
6. Cooking apparatus
   a. Developments in heating agents and in design of apparatus
   b. Modern stove design: essential parts; special features of electric, gas, gasoline, kerosene, oil, coal, and wood stoves
   c. Selection: type best adapted to specific conditions; standards for safety and efficiency; costs
   d. Installation
7. Work surfaces and storage cabinets
   a. Available types; sources of supply; materials; design
   b. "Layouts" for efficient work and for

provision of work surfaces and storage space required

8. Newer developments and experiments with household use of water, gas, electricity

J. FURNISHING, DECORATION, AND EQUIPMENT

1. Standards for furnishing, decoration, and equipment
   a. Functional
   b. Esthetic: color; form; texture; arrangement; suitability
   c. Economic: durability; cost of upkeep in money, time, and labor
2. Plans for furnishing
   a. General considerations in planning: needs and desires of family; money available; design of house; climatic conditions
   b. Financial aspects: budget apportionment; arrangements for financing purchases
   c. Elements in house furnishing plan: determination of groups or centers; listing of articles suitable for each; arrangement
   d. Influence of specific situations: size of house; amount of income; frequency of change of domicile; size and composition of household
3. The backgrounds
   a. Walls, woodwork, and floors: standards; materials; points in selection
   b. Window treatment: standards; determining factors; materials; plans
   c. Floor coverings: standards; types of floor coverings and distinguishing characteristics, uses, and costs of each; choice of material and design
4. Fixtures
   a. Lighting fixtures and lamps: available types and their uses; lighting plan for the dwelling
   b. Registers, radiators: selection and placing
   c. Telephone: available types of apparatus and service; variations in cost; placing of instruments
5. Furniture
   a. Standards in relation to function
   b. Design: styles; present status, trends, and needs in design; standards
   c. Materials: qualities and specific uses
   d. Methods of construction
   e. Elements in cost
   f. Selection in relation to specific use and location
6. Decorative furnishings
   a. Pictures: selection; framing; placing
   b. Textiles: selection and placing
   c. Mirrors: selection and placing
   d. Other decorative objects: selection and placing
   e. Flowers and house plants: selection and placing
7. General aspects of arrangement of furnishings
   a. Principles of room arrangement
   b. Methods of unifying groups of objects

K. LANDSCAPE PLANNING AND PLANTING

1. Relation of lot owner to municipality
   a. Division of responsibility for landscaping
   b. Control of private grounds by municipality
2. Landscaping procedure
   a. Planning: location of buildings on site; uses of areas not covered by buildings; planting plan
   b. Preparation of lot: grading; provision for drainage and irrigation; preparation of soil
   c. Planting procedure
   d. Treatment of open spaces in residential neighborhoods and of strips along highways and streets
3. Materials used in landscaping
   a. Plantings: effects desired; available plants and their suitability for the purpose intended
   b. Other materials and objects

L. OPERATION AND MAINTENANCE OF HOUSE

1. General standards for operation and maintenance
   a. Determining factors: qualities in home atmosphere desired from standpoint of well-being of members; conservation of house and its contents; time, energy, and money called for
   b. Standards now generally accepted, in relation to: efficiency in use of time and energy of worker and in the use of the house and its equipment; income avail-

able for paid service; and family standard of living

2. Control by outside authority
   a. For fire prevention and control
   b. For prevention of trespass
   c. For prevention of nuisances
   d. For protection of quality and quantity of household supplies
3. Accidents in the home due to faulty operation and maintenance
   a. Extent
   b. Causes
   c. Means of prevention
4. Deterioration in dwelling
   a. Causes
   b. Common evidences
   c. Methods of prevention
5. Infestation from insects and vermin
   a. Kinds of pests
   b. Areas where each kind is found
   c. Extent of damage done by each
   d. Means of prevention
6. Restoration and maintenance
   a. General consideration of problems, processes, tools, and reagents
   b. Special care of: textiles; woods; metals; other materials
7. Operation of utilities
   a. Factors involved: cost; efficiency
   b. Objectives: comfort and convenience; safety; economy
   c. Standards for use of electricity, gas, coal, wood, oil, ice, and water, and for disposal of waste
8. Care of house surroundings
   a. Standards
   b. Problems and methods in control of plant growth and of outdoor pests
9. Moving and settling
   a. Procedure; available services; costs

PROBLEMS OF THE HOME ECONOMICS TEACHER—A SYMPOSIUM

Answers to urgent questions about teaching different phases of home economics in the public schools provided the program at the luncheon meeting of the department of elementary and secondary schools during the American Home Economics Association convention in New York last June. Five nationally-known specialists from as many divisions of the field had consented to sit at the speaker's table and answer questions submitted by members of the department. Although ample opportunity had been given for members to hand in their questions in advance, none had done so, and the 61 questions submitted from the 270 persons in attendance at the luncheon were handled by the speakers without preparation. Under the circumstances, a verbatim report of the replies could hardly be expected to furnish a complete discussion of the points raised. To satisfy the demand for a more satisfactory record, Mrs. Jessie Winchell Tickell, chairman of the committee in charge of the luncheon, requested the specialists to write out brief replies to the leading questions; and the present symposium consists of those so far received.

SOCIAL AND FAMILY RELATIONS

LEMO DENNIS ROCKWOOD

In this discussion of questions in the field of the family and its relationships, the attempt has been made to group those submitted according to their principal subjects and to answer them in logical order.

1. *How should one answer the argument that family relations are learned only by living in a home and consequently cannot be taught in school?* Most people would agree that living in a home is one important source of education for family living but that it is certainly not the only one. Not so many years ago we heard similar arguments against training for motherhood in advance of the experience, that such education was a waste of time, and that when women had children they would know how to care for them. But the fallacy of this has long since been proved by experience, for a mother does not find herself divinely endowed with knowledge and understanding as soon as her child is born. The argument is further refuted by the statements of many women that nurse's training or courses in home economics and child care have been of inestimable value to them in managing their homes and caring for their children. Moreover, the argument implies that no knowledge can be obtained through reading, discussion, and observation, and this is, of course, contrary to fact.

2. *What attempts have been made to introduce social and family relationships subject matter into the elementary school curriculum and what methods have been used?* Every year increasing interest is shown on the part of parents, teachers, and administrators in this field of education, and several experiments already are in progress in various parts of the country; but as yet education for social-family relations is not so well established in the curriculum of the elementary school as in that of the high school and university.

One of the best-known experiments in this field is that carried on since 1932 by the public schools of Detroit in cooperation with the staff of the Merrill-Palmer School. After experimenting with various methods in several private and parochial schools the committee came to the conclusion that an

ideal plan is to have the grade teacher correlate the program of education for family living with the regular school work and to leave special assistance from the home economics or special teacher optional. This committee, of which Miss Ellen Miller is chairman, has prepared a suggestive outline for "A Program for Education in Family Living in the Elementary Schools."[1]

3. *In the junior high school should we advocate separate units of work in home and family relations or should the work be tied up with the food, clothing, and management units?* In the writer's opinion, in both the junior high and elementary school such education should be included as a part of existing courses. In this way pupils gain a much clearer idea of the close interrelations of the material and personal aspects of social-family living, and they are enabled to see the problems of management, food, clothing, housing, furnishings, and personal relations as parts of a whole rather than as isolated bits of information After this opportunity to see the problem in its entirety has been given, it seems wise in the junior or senior year of the senior high school to consider the subject of family relationships in a separate course. But even in such a course, the skillful teacher will help young people to become increasingly aware that in social and family life there can be no divorcing of the material from the personal aspects.

This suggests the answer to another question submitted: "Why is it that basic rules of courtesy, as emphasized in family living discussions, receive no additional attention in foods or clothing classes?" Food classes have been for the preparation of food; clothing classes for the making of clothing; and frequently the mechanics of the processes have entirely overshadowed the other equally important factors which must be considered when food, clothing, and management are viewed in the setting of home life.

4. *How can courses in home and family life be made practical rather than purely theoretical?* This can be accomplished only by relating the discussion to the everyday experiences of the girls. Instead of long assignments from textbooks and magazines to be reported on in class, why not select social and family situations that are typical of those met daily by girls of this age and in this environment? Encourage the girls to talk together, to consult and observe others, to read stories or biographies or discussions that deal with situations of this kind, and finally to use these combined sources in arriving at their decisions as to how these situations may be met. The teacher's rôle is to see that the discussion does not wander too far afield, and to withhold her opinions and give the students an opportunity to arrive at their own conclusions.

5. *Is the subject matter of child care and of family relationships usually taught as units of a single course or as separate courses in the junior and senior high schools?* This question usually indicates confusion regarding the scope of these two subjects. Recognizing that the subject matter of child development and that of family relationships converge or overlap at points, it nevertheless seems wise to try to distinguish clearly between them. Child development deals specifically with the physical, intellectual, emotional, and social development of children and with the factors which may promote or retard this growth and development. Family relationships, on the other hand, deals with the interactions of family members and with the circumstances and conditions which may influence these relations in satisfactory or unsatisfactory fashion. As has been said, there are certain overlapping phases. As all of us know, development not infrequently is affected directly or indirectly by relationships.

[1] Merrill-Palmer School, Detroit, Michigan, 1933.

There has been considerable confusion also about the content of personal regimen and of social-family relationships courses. The former, as the writer knows them, deal usually with personal adjustment problems of girls in relation to such things as clothing, food, personal attractiveness, and etiquette; the latter deal with broader questions of family and group life.

Usually child care and family relationships are given as separate courses or as separate units in a sequence of units, particularly in the senior high school; but this does not seem especially important if there is no confusion as to the scope of each. In the past the difficulty has been that the two terms were considered synonymous.

All these distinctions do not lessen the importance of the statement that no single aspect of education for social-family life can be considered apart from the others.

6. *What laboratories for observation of the preschool child are most often used by high school pupils? And what opportunities for observation can be suggested for large home economics classes?* The nursery school established in the college or high school, informal play schools, neighborhood play groups, kindergartens, Sunday schools, and clinical centers have most commonly met this need. At present the emergency nursery schools also furnish a splendid opportunity for directed observation of young children.

For large home economics classes in communities where there are no organized nursery schools, the observation of children in their own homes offers unlimited possibilities. Naturally this is not possible without the cooperation of the mothers, but there should be little or no difficulty in securing this if the teacher goes about it in the right way. In return for this cooperation perhaps she and the girls can offer the mother some service. When the observation is in a home it is very important for the parent to realize that it is desirable for the girls to observe the child in his usual activities and while the work of the home is going on as usual.

7. *What definite outcomes may the teacher of home economics expect from her work with girls in family relations?* Definite outcomes are hard to foresee, but it is reasonable to hope that the student will acquire some of the following:

a. A better understanding of the differences in people and of how these differences influence family relationships
b. A better understanding of the rights and responsibilities of the members of the family and a greater interest in contributing her share toward the work of the home
c. A greater appreciation of: the personal traits essential for desirable social and family relations; the importance and necessity of some recreational interests for all members of the family; the importance of fine standards of conduct in friendships with her own and the opposite sex; the need for close cooperation between the home and the community
d. The ability to live more successfully with others and to develop a social and recreational life within the home

A more detailed consideration of these topics will be available from the American Home Economics Association about June 1 in a manual on "Teaching Social and Family Relations in the High School." This will deal with the need for such education at the elementary and secondary school levels, its scope and objectives, content of courses, sources of materials, and the educational and personal qualifications of teachers, and will give selected references for the teacher's use and suggestions for developing class discussion. Another little volume which the Association expects to publish at about the same time will be "Pictures of Family Life," case studies of normal family life collected

by a committee of the division of the family and its relationships. Both of these are planned for use with *Living Together in the Family*, a textbook published by the Association in 1934.

FOODS

MARJORIE M. HESELTINE

What are the essential changes in emphasis in teaching foods which are consistent with the New Deal? This question, copied verbatim from a slip submitted at the luncheon meeting of the department of elementary and secondary schools, reappeared in easily recognizable variations as the principal theme of the inquiries directed toward the foods specialist at the speakers' table.

In my opinion, the principal contribution which teachers of foods can make toward furthering the hopes of the New Deal lies in placing greater emphasis on food economics. Until such time as those in high command of the New Deal shall succeed in bringing about a more even distribution of income, most teachers of foods will continue to work with pupils from homes in which the expenditure for food is the largest single item in the family budget. The physical and economic welfare of the low-income family depends in no small measure upon the skill with which its members practice the arts of food consumption. As Professor Henry C. Sherman says in his new book *Food and Health*: "The better the economy with which food is purchased, the better the chance that the diet will contain all that contributes to positive health."

Food economics may sound like a formidable subject for the elementary or junior high school pupil, but in its practical aspects it confronts every youngster who is sent to market and every teacher who plans a laboratory lesson in food preparation. It has been too long since I have taught foods to elementary and secondary school pupils for me to speak with confidence, but I suspect that food economics can be introduced most effectively not as a topic by itself but as an integral part of all work with foods.

As a basis for deciding what should be included in lessons on food preparation, the teacher should consider (among many other things) the amount of money which is available for food in the homes of her pupils and the foods which should be included in the family dietary to secure the maximum return from the money expended. Not so long ago, an intelligent decision on these points would have necessitated long hours of thought and more than a little guesswork. Now the information is at hand and all that is needed is to adapt it to local conditions. The teacher may even choose whether she will go directly to the source in Stiebeling and Ward's *Diets at Four Levels of Nutritive Content and Cost* (United States Department of Agriculture Circular No. 296) or whether she will depend upon the successful popularization of the same material in Hambidge's *Your Meals and Your Money*. If she is working with children from homes which can spend only that amount of money which will provide the adequate diet at minimum cost as outlined by Stiebeling and Ward, she will probably see the desirability of emphasizing milk, vegetables, and cereals and giving relatively little time to meat, eggs, and made dishes calling for large amounts of fats and sugars. It is hardly necessary to point out that whatever degree of skill can be developed in the preparation of these foods in the home contributes greatly to the solution of food consumption problems in making the members of the family content with a somewhat monotonous diet.

The teacher who is impressed with the importance of food economics will be interested not only in stressing those foods which yield the maximum nutritive return for the money expended but also in discussing with the members of the class the possibilities

of economy through wise selection within a given food group. Among milk products there will be the choice between bottled and evaporated milk; in cereals there will be the perennial comparison between cornmeal mush and corn flakes and between all-purpose flours and packaged flours for special uses. Whatever comparisons are made should be as free as possible from complicated mathematical calculations. It is all too easy for even a mature student to become so engrossed in putting the decimal point in the right place that she forgets what she is trying to determine.

Restricting the comparisons to a few foods of major importance in the adequate diet at minimum cost keeps this part of the work within reasonable limits and serves to focus interest on essentials. After all, it is a way of thinking in regard to foods that the teacher seeks to encourage rather than the acquisition of specific bits of information. Especially with younger students, the discussion as to comparative costs should be kept in the simplest terms; on the other hand, factors which complicate the comparison should be considered if occasion arises. With children from homes where there is a surplus of unemployed labor available for food preparation, it seems justifiable to leave labor costs out of consideration. It is not so easy to dismiss other imponderables which bright pupils, even in the lower age groups, will introduce into the discussion: lack of equipment or fuel for preparing the cheaper food at home; lack of ice or other storage facilities which would make it possible to take advantage of the economies of large-scale buying.

Teachers who do not find it possible to make home visits or who are not familiar at first-hand with the buying practices of low-income groups may avoid more than one embarrassing situation by consulting the case workers and nutritionists with community welfare agencies. During these past few years, nutritionists with relief agencies have probably struggled more than any other home economics workers with practical problems in food economics. As they have checked food prices in stores patronized by low-income families and have calculated minimum-cost diets, they have found it necessary to revise some of their most cherished ideas as to comparative values in food purchasing. In a large city, for example, canned apple sauce was found to be cheaper than apple sauce made at home. In a city at the opposite side of the country, there is only a very brief period when canned tomatoes are included in the list of foods from which families on relief may select their purchases; for the rest of the year, fresh tomatoes are "substituted" because they are cheaper.

Giving greater emphasis to economic considerations in teaching foods will not appeal to the teacher who likes to know the answer before tackling a problem, but it will provide a stimulating opportunity to the teacher who enjoys growing with her pupils. And isn't it the second type of teacher who takes the trouble to submit questions for discussions during luncheon meetings at annual conventions?

CLOTHING

LILLIAN H. LOCKE

The questions submitted on the teaching of clothing all reveal the struggle going on in our minds over what we term "the changing emphasis" in our teaching. To many this seems to mean a change from clothing construction to clothing selection. In my mind this is not the real issue, because under most conditions both are important and both need to be emphasized.

For years we have had our eyes on subject matter and technics of one sort or another. Both in construction and in selection we already have analyses and outlines of content sufficient to paper a very large

room. The trouble with these outlines is that most of them contain no color—no lights and shades of value. The hundreds of items included stand out with equal importance, and the confused teacher does her best to struggle through them with a group of more or less interested students.

Nothing we teach has value until it bears a definite relation to some human need. In seeking the answer to the questions of what and how much to teach, the real shift of emphasis is from reliance on further analysis and evaluation of subject matter to the analysis and evaluation of the needs of the students who are learning to make a satisfactory adjustment to life.

We have concerned ourselves greatly with what people in general ought to know, do, and think, without always comprehending the relative importance of what people in particular actually know, do, and think or why they think and act as they do. Quite obviously any change in environment, income, sex, age, occupation, education, or other conditions, causes the needs of one group to differ from those of others. That is why no single prescription can be made for all times, places, or people, and why emphasis must be placed now here, now there.

The ability to sew is not equally necessary to all groups of girls and women. People sew for different reasons. Unless some good reason can be found for sewing, why sew? The ability to sew can be and sometimes is a liability unless we know when to sew, what to sew, why to sew, and not merely how to sew. The amount of time given to learning the art must depend upon its relative importance to other needs of a given group of students. Many who do not need to sew for economic reasons may find it a satisfying, profitable use of leisure.

Everyone must sooner or later assume responsibility for making certain types of selections. When we think of the mass of things in the world from which to choose this seems staggering, but in reality the vast majority of people have a very limited range of choice. Limits are imposed by family income and size of family, and in many cases the choosing must be done on levels below those set by so-called accepted or approved standards.

There is still no better means of teaching selection than to help people balance their own needs against their own purchasing power in terms of merchandise within their own range of possibilities. Clothing selection is still largely a matter of emotional adjustment and will continue so for a long time to come. That is one reason why it is difficult to settle on definite standards. Young people not yet self-supporting are particularly liable to have emotional rather than practical interest in clothes. Our task is to help them to economic and emotional stability by enlarging their point of view and aiding them to relate the knowledge they are acquiring to their own experiences. No teacher whose own horizon is limited or who avoids hard, deep thinking can do this. If past training has made narrow technicians of us, it is because we were willing to stop there, not because there was not more to get.

SIGNS OF THE TIMES

NATIONAL PUBLIC HOUSING

HELEN ALFRED

Thirty-nine projects in thirty-three cities have been approved by the Housing Division, P. W. A. Atlanta has begun demolition in the area to be rebuilt; Chicago has assembled the largest legal staff in history to deal with the acquisition of property within an area thirty-seven blocks square; Indianapolis, Cleveland, New York, and a host of other cities have announced construction to begin immediately. This activity, vastly important as marking the first recognition of housing as a governmental responsibility, bears witness to the demand of such organizations as the American Home Economics Association, which last summer endorsed the program of public housing advanced by the National Public Housing Conference.

Governmental officials have publicly stated that if the current housing program is to continue, it must do so on the basis of organized demand by municipalities and allied groups within the community. The social imperatives of such a program are too apparent, too widely recognized to need justification here. The problem of the slum was competently summed up by Horace W. Peaslee of the Housing Division staff, speaking before the New England Conference on Slum Clearance and Low-Rent Housing, when he said:

> One-third of our countrymen are living in scattered hovels, in cluttered shacks, in the squalid flats of congested centers, with common toilets, with dark rooms on fetid shafts; we know from statistics that they are easy victims of chronic ailment and devastating disease, contributing to juvenile delinquency, to gang crime, to gang politics. Such is the slum problem.

Such conditions of life are justification for a comprehensive program of slum clearance and low-rent home production. To the inception and growth of local demand the members of the American Home Economics Association can bring an informed and educative influence. Because of the popular support which is necessary to continuation of the program, they can contribute largely in making the subject of vital interest to their own communities.

One of the factors creating the slum is low rent: slum dwellers live where and as they do because they can afford nothing better. The Real Property Inventory, recently completed by the Bureau of Foreign and Domestic Commerce, revealed 57 per cent of the families investigated to be paying less than $20 a month in rent. This tallies with the research of the Brookings Institution into American incomes in 1929; even in that halcyon time, 59 per cent of America's families were forced to subsist on less than $1,500 per year.

Any realistic program of home construction in the United States must supply decent living quarters for this 59 per cent (undoubtedly a greater proportion today). To meet the problems of rehousing this wide majority of the population, decent living quarters must be made available which lie within the range of their ability to pay. This implies a maximal rental of no more than 25 per cent of income.

Contrary to the popular cry raised by real estate agents, landlords, and others similarly interested in the problem, provision of decent, sanitary living quarters at these prices does not place the government in competition with private individuals. The real estate owner who wants

an income from his property never has and never will provide decent housing for this 59 per cent; he is not only disinclined to do so, but the rate of profit for such construction would be far too slender to warrant his operation in this field. Slum dwellers, in the majority of cases, have played the rôle of tax and interest providers on what has been primarily a speculative land investment. "Improvements" on the land, as even the meanest tenements are called, have served to provide a source of income which defrayed the taxation charges and paid a satisfactory interest on the investment. Real improvements in terms of living standards and sanitary conveniences have been conspicuous by their absence.

For the government to enter a higher rent category with its building program would be to blanket private initiative with a vengeance; this field—above the $6.50 per room per month level in the larger urban centers—is even now overbuilt, well provided with sanitary and moderately comfortable dwelling units. Limited dividend corporations are well equipped by law to provide adequate housing for this income group as it may be needed.

That the government program now developing may meet these problems squarely, the National Public Housing Conference advocates for the coming year the following cardinal points, all of which it believes will elicit the support of home economists:

1. Increased appropriations by Congress for public housing and low-rent home production. (Necessary if the value of the original impetus is not to be lost, if homes are to be provided at rents low enough to be compatible with incomes.)

2. Enabling legislation, permitting the creation of municipal housing authorities in every state in the Union. (Necessary for decentralization of the program, for the development of state and local plans, for the creation of financially responsible bodies outside the political arena.)

3. Establishment of local housing authorities in all American cities. (Necessary in order that projects developed locally may be managed locally, may be taken over by competent authorities from the federal government on completion.)

The possibilities of establishing a progressive and comprehensive federal-local housing service at this time are promising indeed. The opportunities for such action offer a sharp challenge not only to public authorities but to organizations and individuals of influence in every section of the country. Shall we make the most of this opportunity? Shall we accept the challenge?

THE FIRST YEAR OF A COLLEGE COOPERATIVE HOUSE

MARGARET S. CHANEY AND ELIZABETH ROGGE

That a cooperative house may not only be a means of economy but an educational asset to the college girl has been shown by the first year of such a house at Connecticut College. Mosier House, the small dormitory chosen for the purpose, accommodated twenty-one girls and a house fellow. The latter, a home economics graduate with experience in college teaching, had charge of the project under the direction of the department of home economics, managed the house, and supervised the work of the students. The girls were chosen from all four years of college rank and were selected for two reasons: first, need of saving money; and second, cooperative attitude and interest in the experiment. Training in home economics was not a prerequisite, and only three of the girls had had a course in foods at college. Throughout the year the friendly relationships of the house fellow and students and the happy and contented spirit of the entire group gave evidence that the project was successful from the standpoint of real living. Members of the faculty, parents, and students were frequently entertained at dinner. The student government policies in use at the college were followed in the management of the house.

It was felt that for the best good of the students there should be opportunity for

each girl in turn to perform each of the household activities, even though this complicated the task of arranging duties to fit the individual schedules. Some interchange of duties was made. The running of the house was divided into twenty parts and called for the following workers: manager and hostess, two cooks and two dishwashers for each meal, two waitresses, and five housekeepers. Each girl had, in rotation, a "free week" in which she had no schedule of duties but planned her work as manager and hostess for the next week. It was the duty of the manager to plan the menus and help with the market orders and to post on the bulletin board in the kitchen her menus, complete in every respect, and opposite each dish the reference to the recipe and the amount to be made. She also supervised the work for the week. At the end of the week she calculated her food costs, which she listed under the headings of milk and cheese; meat, fish, and eggs; fruits and vegetables, both fresh and canned; cereals and breadstuffs; and fats, sweets, and miscellaneous. She kept track of the number of "girl meals" served and determined the cost per person per day. In this way she learned much concerning meal planning, marketing, and the keeping of household accounts. Since many of the girls had never cooked before their entrance into Mosier House and none had had experience in food planning and preparation for a large group of people, the responsibility of the house fellow was great. One-half of her college load was set aside for this work in the cooperative house. The girls themselves spent an average of an hour a day on their duties; some assignments were considerably lighter than others, and in some weeks the time spent was somewhat more than the average. The girls commented frequently on the comparatively short time which they had to spend on household tasks. This was due partly to good management and partly to kitchen equipment. In the selection of kitchen and dining-room furnishings special care had been given to select those pieces which would give good service and enable the girls to be efficient in their work. The purchases included a large gas range with six burners, two ovens, a broiler, and a warming oven; a large electric refrigerator; two sinks, one of them in the pantry; built-in cupboards; and a tea-wagon.

When Mosier House was organized as a cooperative house, the plan was to have it entirely self-supporting. Each girl paid her tuition directly to the bursar, as do other students, but instead of paying the usual amount for board and lodging, she deposited in the house account a sum of money which was her share in the project. This house money was used for rent, food, janitor service, coal, gas and electricity, laundry, upkeep and replacement of equipment and supplies, and miscellaneous items. When, at the end of the first semester a considerable balance was on hand, the girls were asked to pay the college approximately half of the sum spent on the original furnishing of the kitchen and dining room, an expense made necessary by the project. Even so, there was a balance on hand at the end of the year, and each girl received as a refund her share of the cash on hand.

For the eight months of residence in the house the per capita expense of actual operation was slightly under two hundred dollars. It must be realized that this sum does not include the original expense of renovating and equipping the dining room and kitchen or the amount set aside for depreciation (10 per cent of the estimated value of house furnishings). Nor did the girls in the house help to bear general overhead expenses of the college as did the other students.

The total spent was divided as follows: food, 43 per cent; rent, 30 per cent; coal, 9 per cent; gas and electricity, 5 per cent; janitor service, 5 per cent; equipment and supplies, 3 per cent; miscellaneous, 3 per cent; laundry, 2 per cent.

The day's menus were planned for nutritive value, ease of preparation, attractiveness in color and texture. The following foods were included daily for each girl: a pint of milk; two fruits, one raw; two vegetables other than potatoes, one raw and frequently one green; one egg; one serving of meat; one serving of whole-grain product. No great effort was made to economize; and the menus contained fresh fruits and vegetables in season, butter, cream occasionally, and some of the more expensive cuts of meat. The daily per capita expenditures for food, calculated weekly, averaged 32 cents. The percentage distribution of cost for the different food groups was as follows: milk and cheese, 19 per cent; meat, fish, and eggs, 27 per cent; fruits and vegetables, 28 per cent; cereal products, 10 per cent; and fats, sweets, and miscellaneous, 16 per cent. These percentages are similar to those recommended by authorities for a moderate-income group.

The house was so successfully carried on during its first year that the plan is being continued. From the financial, educational, and social point of view it is considered a valuable project by Connecticut College.

AN INSTITUTE FOR LIFE ECONOMICS IN VIENNA

GISELA URBAN

In the article "Education for Life" which Dr. Maria Maresch contributed to the JOURNAL OF HOME ECONOMICS for March 1929, she described the introduction of instruction in life economics (Lebenswirtschaft) in Austria. There is no one more competent to discuss this theme. Dr. Maresch, who is on the staff of the department of girls' education in the Ministry of Education, initiated this instruction and works untiringly for its development.

As the name implies, the purpose of this instruction is to train girls while still in school in correct "life economy," including good personal habits and homemaking practices of all kinds, especially those that make for good nutrition. Through this instruction the girls will later be able to fulfill their duties as housewives and mothers, to manage the simplest household with the simplest means, with the least expenditure of time and strength. How necessary this is to the welfare of the family, of the nation, and even of humanity it would be superfluous to discuss here.

Since 1929 further progress has been made in this branch of instruction, until now it is given even in solitary mountain villages. There is a difference, of course, in the way it is taught in cities and in villages or country districts, local needs being always considered and also the capacities of the pupils. The first elements of the knowledge of goods on the market and of housekeeping are followed by instruction in the technics of daily life, such as systematic household management, care of the house, care of children. Instruction in life economics has a far wider scope than instruction in housekeeping and it is not considered as a separate, theoretical subject but is incorporated and applied in all branches of study. The arithmetic lesson includes the keeping of expense accounts; instruction in tending babies is interwoven with natural history; in geography the teacher tells of the origin of different foods and raw materials—in short, each subject is made to serve education in life economics.

At present there are four hundred school kitchens in Austria, most of them in elementary schools; and there are two thousand trained teachers, organized in a central association. This structure has recently been crowned by the foundation of an Institute for Life Economics. As early as 1926, courses were opened in Vienna to train teachers for teaching life economics. Students from the University

were also admitted, and they exhibited so much zeal for this new study that the idea sprang up to enlarge the work into an Institute of Life Economics. This was carried through, and the work has been moved to a new home, a fine building which was formerly a hospital for army officers and which is surrounded by a garden.

In a big, light kitchen, formerly the operation hall of the hospital, we see blooming young women, their faces showing not only love of work but also high intelligence. Dressed in their white aprons, the girls are grouped around large tables, engaged in preparing food. As they skillfully handle ladles and other cooking utensils, they are racking their brains to decide how to prepare a substantial dinner that does not cost more than a schilling, the usual limit set for cost. With each table there is a stove and a cupboard with kitchen utensils for the use of the six girls who form the cooking group or "family." In three lessons they have to prepare two entrées, two main courses, and two desserts. During the cookery work, theory and practice are very skillfully combined.

In order not to interfere with the other work of the University students, the lessons are given two afternoons of the week from three to six o'clock. It usually happens that the University students finish their cookery work an hour before the other candidates. Does not this suggest that trained intelligence makes for quick adaptations to the requirements of practical life?

The curriculum for the first year comprises dietetics and management (Betriebslehre). In the second year these subjects are taught still more intensively, and in connection with such problems as how food is digested and assimilated in the human body. In addition, biology and national economy are taught, and a practical course in the University infirmary is required. At the end of this year the student takes an examination in housekeeping and the care of children. The work of the third year is intended to train teachers of life economics. It deals with practical purchasing, distribution of the income, and keeping accounts, and with methods of teaching and prepares students for special teachers' examinations. After the three years' courses, students go up for an examination in life economics (housekeeping, national economy, and management) and then a teachers' examination at the University. A fourth course is being planned to give candidates practical teaching experience.

A wide and promising field of professional activity is opening up in systematic homemaking education for all young women. Because of the economic depression, the prospects of employment are very poor for women with a university degree; and hence the Institute of Life Economics is gladly welcomed as leading to the new type of professional activity in the program of popular homemaking education for all young women. The prospects seem especially promising in rural districts, where there is a lack of trained, progressive women teachers who do not restrict their activity to one special subject but who are able to increase interest and understanding of the problems in housekeeping, nursing, and social work, to rouse the young women to the desire to master and ennoble life, and to inspire even the older ones to strive after more perfect accomplishments. It is recognized that most women do not care so much for knowledge as such, but rather for the utilization of knowledge in life, for applied and not for theoretical science. Therefore, it is to be hoped that the new impulses given to women's work through the Institute of Life Economics may result in new happy discernments of life relationships. Work along the borders between life and science, which, hitherto neglected, is now being opened for women by scientifically guided life economics, must bear rich fruit for the improvement of life.

EDITORIAL

A. H. E. A., CHICAGO, JUNE 24 TO 28

When the first hints of spring are having their inevitable effect on our *Wanderlust*, every good home economist begins thinking about summer plans; and those for going to the annual meeting of the American Home Economics Association are usually among the first both as to time and as to personal pleasure and professional profit. It always seems too bad that just when definite information about the meetings would be so welcome there is little or nothing new to tell. Its general features have already been announced; practical details about railway fares and hotels have appeared in the *Bulletin*; and it is still too early for details of the program. However, if she has much experience with such occasions, our home economist is probably willing to trust the powers that be to provide a stimulating, timely mental menu, served in an atmosphere of friendly companionship and punctuated with diversions and trips that prevent Jill from becoming too dull a girl and give her some idea of the general sights and home economics opportunities of the meeting place. From the hints dropped by Frances Swain in the February *Bulletin*, we judge that the local committee is likely to offer some rather unusual treats. In fact, it seems a safe gamble to plan to be in Chicago June 24 to 28 or 29, even to write for reservations, not forgetting that headquarters will be at the Palmer House.

FOOD, DRUGS, AND COSMETIC BILL, S. 5

This bill, which Senator Copeland of New York introduced on January 4, contains substantially the same provisions as the food and drugs bill recommended by the Senate Commerce Committee last winter, S. 2800 (see JOURNAL for May 1934, page 292). The legislative committee of the American Home Economics Association believes that it will accomplish the major objectives desired in new food and drugs legislation in that:

1. It brings cosmetics under regulation. A cosmetic is deemed adulterated if it contains poisonous or deleterious substance and is misbranded if its label is false.
2. It forbids false advertising of foods, drugs, and cosmetics. It also forbids advertising any drug as having therapeutic value in the treatment of certain specific diseases for which no specific is known or where self-medication is dangerous.
3. It permits the establishment of a legal standard of identity and quality for foods, thus avoiding the necessity of convincing the court of the fairness of a standard every time a case is brought before it.
4. It strengthens the provisions now in effect relating to adulteration and misbranding.
5. It provides a plan of administration better designed than the present one to give proper protection to the public.

The bill is not entirely satisfactory in several respects. Those given below seem most serious, especially the first:

1. It calls for the listing of ingredients on labels of foods and drugs, but permits as an alternative the filing of this information with the Department of Agriculture and at the same time forbids giving information so filed to the public, save in cases involving danger to health or gross deception to consumers.
2. It provides for only "a reasonable standard of quality and fill of container," which would not permit the grading of foods (quality standards).
3. It does not require the listing of the ingredients of cosmetics on labels. Such listing would enable an individual to choose products without ingredients for which one might have an allergy.

4. It permits the exportation of adulterated foods, drugs, and cosmetics. Exportation of very inferior products would be detrimental to the reputation of U. S. products.

Interests opposing the bill are resorting to the usual strategy of having measures introduced which, while they are apparently similar in purpose, contain portions that weaken or nullify important provisions of the original measure. Thus S. 580, introduced by Senator McCarren of Nevada, was drawn up by a representative of certain food industries and would in certain respects afford even less control than the present law; and H.R. 3972, introduced by Representative Mead of New York and drawn up by representatives of the manufacturers of proprietary medicines, places enforcement of the advertising provisions under the Federal Trade Commission, without adequately strengthening the latter's present authority or avoiding the difficulties of divided responsibility.

As Mr. Andres points out on page 137, similar tactics have been used throughout the history of such legislation. It behooves those who wish a measure which will give adequate, enforceable consumer protection to make their senators and representatives realize that they will not be satisfied with any emasculated substitute.

HOUSING AND HOME ECONOMICS

The interest of home economists in a program for better national housing and their belief that they have something to contribute to such a program found expression in the resolutions adopted last June by the American Home Economics Association:

WHEREAS, proper housing is essential for healthful personal development and wholesome family and community life; and whereas, it is generally recognized that such housing cannot be made available to many low-income groups without some form of public aid;

Be it resolved that the American Home Economics Association go on record as endorsing the activities of the National Public Housing Conference to promote federal aid for slum clearance and low-cost housing and also the campaign of public education and organization which the Conference is conducting to secure the adoption of legislation in the 1935 sessions of state legislatures by means of which broad, long-range plans for slum clearance and rehousing may be developed throughout the country;

And be it further resolved that the American Home Economics Association stand ready to cooperate in those parts of the federal housing program which touch on home economics problems and interests, and that it urge the recognition of the possible contributions of home economics to the program.

In accordance with the first of these two policies, the JOURNAL takes pleasure in publishing the paper by Miss Alfred, secretary of the National Public Housing Conference, on page 165. It is also glad to remind readers that membership in the Conference is open to anyone interested in its program and that the two dollar dues for subscribing members include subscription to the semi-monthly bulletin *Public Housing Progress*. This keeps one posted as to significant developments in this and other countries and also reports the regional meetings which the Conference is arranging in different parts of the United States. The address is National Public Housing Conference, 112 East 19th Street, New York City.

The aims of the Conference and the character of its supporters were seen at the regional meetings in Washington on January 18 and 19. Mrs. Roosevelt was the first speaker and brought greetings and good wishes from her husband. Secretary Ickes, under whom come both the housing division of the P.W.A. and the special subsistence homestead projects, contributed to the discussion of public housing policies. Colonel Horatio B. Hackett, director of housing in the P.W.A., spoke of the work so far organized under his division and was followed by effective motion pictures of

European and American low-cost housing projects and present conditions—the latter far from soothing to our national pride. The Conference also discussed and adopted a memorandum to President Roosevelt, the very existence of which, as Mr. Norman Thomas pointed out, proved the amazing growth of public concern about housing for low-income families and of recognition that in this field of housing where decent living conditions never were and never will be possible at private profit, the state must for its own safety assume some responsibility.

As regards the resolution on cooperation of the American Home Economics Association in the national housing program, anyone who reads the newspapers will realize that decision about what the federal housing program shall include has been hanging fire along with the whole question of appropriations for and administration of public relief and public works; and until that is settled it is obviously impossible to develop any comprehensive program of cooperation or even to say much about aims and purposes. Meanwhile, so that the Association should not be caught napping, Miss Raitt called a small, informal conference at Association headquarters in Washington just after the Land-Grant College meetings last November to consider the possible rôle of home economics when a national program is undertaken. It arranged to establish informal contacts with federal and private agencies concerned with housing and appointed committees to consider what features home economists would like to see introduced into housing projects and what college home economics departments might do to bring their work into line with new developments and opportunities. Such subjects will undoubtedly appear on the program of the annual meeting in Chicago next June.

The JOURNAL plans to report developments as fast as they are available for publication and has already arranged for several special articles. Meanwhile, a study of the housing syllabus on page 152 will suggest the relations of home economics to housing.

Whatever decisions may be made regarding public cooperation in better housing, the program is likely to be a long-time one and to get under way only gradually; and while home economics, like every wise virgin, wishes to keep her lamp trimmed and burning, she cannot expect that her exact rôle will at once become completely clear.

COLLEGE DORMITORIES

As every college administrator and almost every resident college student know, the college dormitory has an important influence on the personal development of the students and the quality of social life in the college. Any attempt to set up minimum standards for a dormitory inevitably involves consideration of standards for such intangible values as privacy, quiet, beauty of surroundings, provision for sociability and hospitality, for music, dancing, and games. In her 1934 report as president of Connecticut College, Katharine Blunt speaks of the two new dormitories at the College and asks, "What is the ideal dormitory?" Her answer is:

> A place to stretch one's mind and to help it grow, by long hours of reading and thinking and by stimulating talk with congenial friends.
>
> A place to make friendships that will last, with a basis of common thoughts and experiences, with generous give and take.
>
> A place for play and for happy fun.
>
> A place for the thoughtful solitude that gives serenity and keeps one in touch with one's sources of inspiration.
>
> A place, in short, to make happy and worthy members of the college community and of the communities to which they will go.

Features deliberately introduced into the new buildings to help attain this ideal are listed as:

Living rooms with beauty and comfort where students can enjoy meetings with each other and with outside friends, young and old.

A colorful and quiet dining room for friendly association three times a day.

Books in the living rooms for all, in the students' rooms for the individual.

Music—piano, victrola, radio.

Games in the game room.

Rooms for individual students, where they can be sociable or alone, can work or play.

Sunshine, color, lovely views, shrubs and trees and flowers near at hand.

She also says of Mosier House, the cooperative dormitory described in the paper on page 166, that it is crowded and too far from the campus, and she looks forward to the day when the College can replace it with a cooperative building of its own.

ART AND THE MACHINE

Industrial art was the subject of the last in the series of radio programs on "Art in America" broadcast this autumn and winter under the auspices of various organizations interested in art, education, and radio and directed by Rene d'Harnoncourt. A news release regarding this final broadcast included two paragraphs that seem worth passing on to home economists because they express so clearly the futility of trying to reproduce handicraft effects by machine and the true artistic possibilities of mass production combined with good design.

Until recently the machine age in which we live has been condemned as a destroyer of beauty. When everything was handmade, the skill and fineness which the worker put into the object under his hands resulted in a genuine art of handicraft. When the machine took over the manufacture of articles, an abortive attempt was made to reproduce by machine the characteristics of handicraft. But what had been beautiful when produced actually by the slow personal method of handwork became ugly and cheap looking when turned out in mass production. So the machine was condemned for doing what it never should have been required to do.

Within the past few years, however, machine design has come into its own as an original art rather than an imitation of handicraft. Objects for mass production are now designed to bring out fundamental, simple lines, surface of material, weave of texture, and all the intrinsically artistic elements of the object manufactured. Instead of applied beauty, the machine is showing us inherent beauty. The underlying aesthetic principles are the same, but today they are adapted to new use in the industrial arts. We are beginning to see that a frying pan, simple and unadorned but a perfection of shining metal in line and surface, may be not only a thing of use but of beauty and therefore an artistic as well as a practical triumph. Industrial art is bringing a new sense of beauty into American life.

In this connection it is worth noting that the first exhibit of industrial art arranged by the Royal Society of Arts and held in the famous Burlington Galleries attracted much attention in London this winter.

RESEARCH

THE RELATIVE IMPORTANCE OF VARIOUS CHARACTERISTICS IN UTENSILS USED ON THE ELECTRIC RANGE[1]

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SEVERAL research projects at the Washington Agricultural Experiment Station have dealt with utensils for the electric range. Popular bulletins (1, 2), four short articles (3, 4, 5, 6), and two technical reports (7, 8), the last two available by interlibrary loan, have been issued.

One phase of the most recent study had for its purpose the determination of the effect of varying several characteristics, such as wattage of and contact with the electric unit; metal; height; weight; diameter; shape; surface finish; and amount of water. The determinations were made by means of a standardized boiling test, in which measurements were taken of the time required to bring 1000 or 1500 gm. of water to boil, the time the water remained at boiling after the current was shut off, the amount of water lost by evaporation, and the electric input in kilowatt hours required to heat the water from 20° to 97.7°C., the local boiling point. From these values the thermal efficiency was calculated, namely, the ratio between the heat utilized and the heat supplied, the heat utilized being the sum of the heat absorbed by the pan and its contents and that absorbed by the evaporation of some of the water.

Thirty different utensils and seven distinct types of surface units were used in the major study. In most cases the results reported here concern tests made on open surface units with aluminum or enamel pans, except in one series when pans of other materials were compared. The effect of the varied characteristic is given for only two of the measured or calculated quantities, the time to boil (T.T.B.) and the thermal efficiency (T.E.). Results are expressed as higher or lower percentages of one value arbitrarily set up as standard.

To estimate the accuracy of the method used, ten successive measurements were made with an aluminum pan, 1000 gm. of water, and an open unit. The T.T.B. averaged 12.5 minutes, with a maximum variation of 0.4 minutes, or 3.2 per cent; an average variation of 0.2 minutes, or 1.5 per cent; and a standard deviation of 0.23. The T.E. averaged 58.5 per cent; with a maximum variation from this average of 0.7, which amounted to 1.2 per cent of the average rating; an average variation of 0.3, which amounted to 0.5 per cent; and a standard deviation of 0.38. Since in all other tests only two or three duplicate measurements were made rather than 10, a variation value slightly greater than the maximum variation obtained in the 10 test series is not considered a significant difference. Values, however, greater than 4 per cent for the T.T.B. and 2 per cent for the

[1] Published as Scientific Paper No. 286, College of Agriculture and Experiment Station, State College of Washington.

Comparison of the effects on time required to boil water and on thermal efficiency of different characteristics in heating unit and utensil and of the amount of water used

CHARACTERISTIC	TIME TO BOIL (T.T.B.)	THERMAL EFFICIENCY (T.E.)
	per cent	*per cent*
Unit		
Wattage		
1000 w.	100	100
500 w.	180	99
250 w.	340	97
Contact*		
good	100	100
poor	125	89
very poor	137	81
Utensil		
Material		
aluminum	100	100
copper	100	99
enamel	104	93
iron	112	98
Height		
5.1 cm.	100	100
11.4 cm.	102	95
14.0 cm.	105	92
Weight		
282 gm.	100	100
495 gm.	99	101
976 gm.	107	102
Shape		
straight sides	100	100
flaring sides	98	101
Finish		
Bottom, shiny	100	100
" black	88	106
Sides, shiny†	100	100
" black†	99	99
Color, white	100	100
" gray	114	88
Cover		
used	100	100
not used	114	88
Diameters of Unit and Utensil		
Unit, 14 cm., utensil 16 cm.	100	100
" 20 cm., " 16 cm.	85	83
" 14 cm., " 20 cm.	109	92
" 20 cm., " 20 cm.	79	89

* Made on Chromalox unit.
† Made on Electrocone unit.

Comparison of the effects—Concluded

CHARACTERISTIC	TIME TO BOIL (T.T.B.)	THERMAL EFFICIENCY (T.E.)
	per cent	*per cent*
Amount of Water		
1000 gm.	100	100
2000 gm.	154	107
3000 gm.	199	115
4000 gm.	244	116

T.E. are considered greater or less than the ones set up as standard.

The unit. In determining the influence of the heating unit, wattage and contact were the points especially studied. The results are summarized in the accompanying table.

The effect of varied wattage on the speed and efficiency of the boiling process was of interest. The reduction of the wattage from "high" to "medium," or from 1000 to 500 watts, in a standardized boiling test increased the T.T.B. 80 per cent and decreased the T.E. one per cent. A reduction to 250 watts, "low" setting, increased the T.T.B. 240 per cent, and decreased the efficiency 3 per cent. The conclusion is that T.T.B. is correlated with maximum wattage of the units but that the heating processes in the three cases are equally efficient.

To show the effect of contact, tests were made with a flat-topped, light-weight unit (Chromalox) and with an aluminum pan placed in three grades of contact with it: 1, good contact, with the pan resting on the unit; 2, poor contact, with the pan and unit separated by an air space 0.04 inch thick; and 3, very poor contact, with an air space 0.09 inch. Poor and very poor contact tests were found to increase T.T.B. 25 and 37 per cent, and to decrease T.E. 11 and 19 per cent, respectively. Thus for the

water to boil in minimum time the unit must be operated at its maximum wattage, and for high efficiency it must be flat to afford good contact with the utensil.

The utensil. The special points considered in connection with the utensil were material, height, weight, diameter, shape, finish, and use of cover.

Four materials were tested: aluminum, copper, enamel, and iron. One utensil of each was used, in a shape as similar as possible to that of the others. The values obtained with the aluminum pan were taken as standard, or 100 per cent. In comparisons on this basis the T.T.B. and the T.E. values of all the pans showed relatively small differences. Those of the copper pan were practically identical with the aluminum. The iron pan, which was much heavier than the others, was slower in heating. The enamel pan showed the lowest T.E., 93 per cent. Similar tests with a glass casserole gave results fairly close to those obtained with the metal pans. Hence, it is concluded that although metals may have different heat conductivities, in a test involving heat transfer by conduction, convection, and radiation the material of the utensils has some, but no marked, effect on speed or efficiency of heating.

To show the effect of height, tests were made with 3 enamel pans of different heights, but each containing the same height and volume of water. The results showed very small differences in T.T.B. and in T.E.

The effect of weight was tested with 3 aluminum pans of almost the same dimensions but of different weight and gauge. The resulting values for T.T.B. varied less than 10 per cent and those for T.E. less than 5 per cent. Other investigators (3) have reported that "the thermal efficiencies of well-constructed light and heavy cooking utensils are approximately the same." Sater and Peet (9) with a set of aluminum pans of various gauges found some, but low, variation in efficiency on 3 different units. Garbe (10) also found that side and bottom thickness influenced cooking time but little.

In considering this question of weight of utensil from a practical standpoint, the fact that the heavy-walled pan has greater durability than the thin-walled one should not be overlooked; nor, on the other hand, the fact that cast metal does not always have the same resistance to acid or alkaline attack as do cold-rolled, hot-rolled, and pressed ware. On just what criterion this point should be settled is not known.

As regards the effect of shape, tests with pans with straight and flaring sides showed very small variations in speed of heating and efficiency. In cooling tests, however, the temperature drop in the flaring-side pan was more rapid because of the greater radiating surface. If the bottom of the pan was in close contact with the unit, the shape of the upper part had practically no effect on the heating properties.

Flatness of pan bottom is important in this connection, and an old warped pan with smaller area of direct contact has been found less efficient. Laue (13) has recommended heavy bottoms, at least 0.3 to 0.4 inch thick, to eliminate warping and to retain original flatness.

The effect of shiny or dull finish was studied for both the bottom and the sides of a utensil. Pans with shiny bottoms were slower in heating and lower in efficiency than the same pans with black lacquered bottoms. Dull or rough bottoms also appeared more efficient than shiny bottoms. The black, dull, or rough bottom absorbed radiant heat more readily than did the shiny bottom. However, on units heating largely by conduction this condition did not hold true. With open units which afforded both conducted and radiant heat, black-bottom ware was superior. Tests on a pan with blackened (sooted) sides and the same pan with shiny sides showed very small variation in speed and efficiency during

heating but some differences in cooling. Thus the finish of the bottom of the pan appeared to be a more important factor than that of the sides.

Since the color of the pan might be considered a feature of its finish, this point was tested. Water in a gray enamelled pan boiled a little sooner than in its twin pan of white enamel, but the efficiencies of the two differed only by one per cent. Other tests confirmed this indication that color is of small import.

The cover. Tests showed that water in an uncovered pan took from 1.5 to 2.5 minutes longer to reach boiling than that in a covered pan, and that the efficiency of the former was 12 per cent less. Greater evaporation took place from the open pan; but if only the heating process is to be considered, the covered pan was the more efficient. The water in the uncovered pan remained boiling for only one or two minutes after the current was shut off, while that in the covered pan stayed boiling from 12 to 14 minutes. For practical use in cooking vegetables the cover of the pan should be removed to allow escape of volatile acids, but from an engineering standpoint the actual heating process is far more efficient with the pan covered.

Diameter of unit and utensil. The relation between the diameter of the heating unit and that of the bottom of the utensil is known to affect the heating properties of the latter. Earlier investigators (11, 12) found that maximum efficiency and speed were obtained with the diameter of the pan equal to or greater than that of the unit, and tests in this laboratory verified these findings. The four combinations of diameters used are shown in the table, together with the results from each. In general these indicate that for optimum heating conditions the bottom of the utensil should be the same or slightly greater than that of the heating unit. Using a smaller diameter pan on a larger diameter unit with higher wattage was found to decrease the T.T.B. and increase the T.E., but at a higher cost of operation.

Amount of water. The amount of water in the pan was found to affect both the T.T.B. and T.E. but not in the same way. The more water, the greater the T.T.B., but the greater also the T.E. Evidently in boiling larger quantities of water not much more heat is lost than in heating smaller amounts, a point also verified by Klingemann (14). When the amount of water was increased four times, the T.T.B. increased 144 per cent and the T.E. 16 per cent. In a graph showing the relationship between the amount of water and the T.T.B., the rise appears as a straight line; but in one for the relationship between the amount of water and the T.E., it would appear as a curve, which would flatten out at values near the capacity of the utensil.

Summary. The relative effect of varied characteristics of cooking utensils has been studied, particularly with reference to the effect on the time required to boil water and on the thermal efficiency of the utensils on electric surface units. The characteristics which most markedly affected the time to boil were the amount of water, the wattage of the unit, the contact with the unit, the bottom finish, and the cover of the utensil. Those affecting the thermal efficiency most decidedly were the amount of water, the contact with unit, the use of a cover to the pan, and the diameter of the pan in relation to the diameter of the unit. Thus, many of the variable characteristics affording maximum speed and efficiency in the heating process are seen to be external to the pan itself.

REFERENCES

1. SWARTZ, V. W. Baking vegetables electrically. *Wash. Agr. Exp't Sta. Bull.* No. 251 (1931, Feb.).
2. ROBERTS, E. H. Utensils for the electric range. *Wash. Agr. Exp't Sta. Bull.* No. 283 (1933, June).

3. LANDRETH, C., and HUTCHINSON, R. G. Thermal efficiencies of aluminum saucepans. *J. Home Econ.* **21,** 599–604 (1929).
4. SWARTZ, V. W. Thermal efficiency of surface units in electric ranges. *J. Home Econ.* **23,** 459–464 (1931).
5. CORNEHL, B., and SWARTZ, V. W. Speed and efficiency of oven utensils. *J. Home Econ.* **23,** 464–467 (1931).
6. SWARTZ, V. W., and JONES, G. Fuel economy of triplicate pans. *J. Home Econ.* **23,** 467–470 (1931).
7. SWARTZ, V. W. Standards for cooking vegetables in the electric oven. Purnell Research in Home Economics 1929–30 at the Wash. Agr. Exp't Sta. (unpublished report).
8. ROBERTS, E. H. The thermal efficiency of utensils for the electric range. Purnell Research in Home Economics 1932–33 at the Wash. Agr. Exp't Sta. (unpublished report).
9. SATER, V. E., and PEET, L. J. Thickness of an aluminum utensil as a factor in its thermal efficiency when used in surface cookery on an electric range. *J. Home Econ.* **25,** 324–326 (1933).
10. GARBE, O. Uber den Warmeverbrauch der Kochgeschirre. *Technik im Haushalt* **2,** No. 7 (1928).
11. KLINGEMANN, R. Untersuchungen uber die Zweckmassigste Behandlung elektrische beheizter Koch- und Backapparate im Hinblick auf die Wirtschaftlichkeit. *Hauswirtschaft* **3,** 1–11 (1930, Feb.).
12. SNYDER, E. B. A study of kerosene stoves. *Nebr. Exp't Sta. Research Bull.* No. 48 (1930, July).
13. LAUE, W. Neue Untersuchungen uber die Eignung verschiedener Kochgeschirre für das elektrische Kochen. *Elektrizitatswirtschaft,* 357 (1932, Aug. 31).
14. KLINGEMANN, R. Der Einfluss des Fullungsgrades, der Grosse, und der Form von Kochgeschirren auf die Wirtschaftlichkeit des Anheizprozesses beim Kochen. *Hauswirtschaft* **1,** 9–14 (1928, May).

PRACTICAL SIGNIFICANCE OF RESULTS

These results indicate that in selecting utensils for use on top of the electric range the housewife must consider the bottom of the pan in relation to the top of the stove. The bottom should be of the same diameter or slightly larger than that of the heating unit; it should be flat and also heavy enough to retain that flatness; and it should be black, dull, or rough to absorb radiant heat. The cover of the utensil should fit closely to prevent loss of heat. With any utensil the correct operation of the electric range is of course essential to the most efficient use of the current.

BOOKS AND PERIODICALS

NEW BOOKS

Food and Health. By HENRY C. SHERMAN. New York: The Macmillan Company, 1934, 296 pp., $2.50.

The privilege of reviewing a book of Dr. Sherman's is accompanied by serious hazard to any other job on hand. A part of its compelling interest is the result of discriminating choice of material and a clear, concise style which gives a maximum of information in a minimum number of non-technical words; a part comes from the skill and consistency which through the whole book give unity to its expressed purpose: "To crystallize the best from the voluminous writings of recent years; and especially to convey a sound sense of proportion first as to sanitary safeguards, second as to true economy in the budgeting of food money, third as to how far the principles of nutrition are valid for all, and how far they are modified by individual variations; and finally as to the justifiable anticipations of advances to be gained through the newer knowledge of nutrition and food values."

The general scheme of the book is indicated at the beginning of Chapter XI, which gives a bird's-eye view of earlier chapters and of the historical development of nutrition as well. The twentieth-century science of nutrition is being built around six pillar concepts: (1) the energy aspect, (2) the proteins and their amino acids, (3) the mineral elements, (4) the vitamins, (5) the interrelations among these different factors, and (6) the principle that our most significant concern is with the nutritional reactions of the living body as a coordinated whole which is something more than a summation of its parts.

While the pillars are considered in this order, the old danger of focussing the attention too exclusively upon energy values before qualitative requirements had been met is here avoided by discussing balance of foods, protective foods, and the relation of nutrition to buoyant health (rather than to merely passable health), and by frequently reminding the reader in other ways of the qualitative aspects of diet, e.g., the superiority of fats containing vitamin A, and the slogan for those overweight: "No calories without vitamins."

Chapter VIII, "Proteins and Their Acids," presents in six pages an amazing amount of information in a form that gives it the greatest practical value. Recent research justifies the name—from the Greek protos, meaning first—but the body can adapt itself to food intake of widely varying amounts, and many of its supposed nutritional responsibilities are really carried by vitamins and minerals. Proteins differ in value, but practically every food contains several; and mixtures, especially of milk with other foods, allow utilization of proteins relatively less efficacious but comparatively cheap. On the whole, diets adequate in energy value prove to be adequate also in protein.

Chapter X, "The Significance of Being Born Calcium Poor," is an intensely interesting, balanced, and unified presentation of many facts that is at once comprehensive and very nearly unforgettable. The small amount of calcium in the infant's body at birth has a survival value, since it results in soft, flexible bones allowing easier birth and facilitating subsequent brain development. The need for calcium continues high all through the growing period and is important throughout life, not only for growth and for healthy bones and teeth, but also to ensure longer lease of healthier life, longer retention of the characteristics of youth, and a longer efficient adulthood. Recent studies show that human beings of all races, Asiatic and African as well as European and American, need from one-half to one-third of a gram of calcium daily for maintenance, and one gram daily during growth, pregnancy, or

lactation. The calcium needed is best secured by liberal use of milk. Fruits, vegetables, and eggs supplement milk as sources of calcium.

The chapters on the vitamins emphasize their individuality, each being entirely specific; relative shortage may lead, perhaps before signs of specific deficiency appear, to tissue change which weakens the body's defenses against infectious organisms; they are to be considered normal nutrients with far-reaching functions rather than remedial agents acting in special circumstances as anti-something. In distinction to fuel nutrients, in which the amount required for maintenance is also the optimum for most people, and to minerals and protein, of which 50 per cent beyond maintenance requirement is a safe margin, vitamins are eaten to advantage in amounts several times those required for maintenance. This point of view is developed in the discussions of the individual vitamins, which, unfortunately cannot be taken up in detail here, though they constitute some of the most noteworthy sections of the book.

In discussing the place of different foods in the dietary Dr. Sherman compresses the results of an immense amount of research into a few generalizations that are of incalculable practical value, especially now. The dietary should be built around grain products (the most economical source of protein and energy) and milk, whose proteins are rich in the amino acids so much less abundant in grain proteins, and which further supplements the grain products in minerals, especially calcium, and in vitamins, especially vitamins A and G. Cereals may furnish from one-third to one-half of the total energy if largely whole cereals and if carefully supplemented; at least half the needed food calories should come from protective foods, milk products, fruit, vegetables, and eggs. Meats—though readily digested, liked by most people, and associated in scientific and popular tradition with muscular stamina, vigor, success, and prosperity—are at the same time the most expensive sources of nutrients and when used in place of other foods should replace cereals rather than milk and vegetables, fruits and eggs. The standards of good nutrition are almost sure to be met when meats use not more of the family food money than is spent for either milk or for fruits and vegetables.

The present knowledge of nutrition can make a major contribution to buoyant health; but in order to realize its benefit each individual must make his choices in accordance with it. The taking of a larger proportion of the needed calories in the form of protective foods will result in a higher level of adult vitality and accomplishment, with an extension of the prime of life further into the advancing years.—RUTH WHEELER, *Vassar College, Poughkeepsie, New York.*

The Vitamin B Requirement of Man. By GEORGE R. COWGILL. New Haven: Yale University Press, 1934, 261 pp., $4.

In this carefully prepared monograph the author offers a method for determining the vitamin B requirement of man. The method evolved, based on the findings of a decade of research, is decidedly ingenous and should serve as an incentive for similar reports on the other vitamins. The general plan involved the determination of the minimum vitamin B requirement of four species—mouse, rat, pigeon, and dog. By a careful analysis of the data an expression was derived relating vitamin requirement per unit of body weight to metabolism. The equation constant was specific for the species. This formula was then checked for each species and found to be satisfactorily reliable in giving results comparable to the experimentally determined requirement. From this a simple expression relating vitamin requirement to caloric intake and body weight was deduced:

$$\frac{\text{Vit}_i \text{ (daily requirement vitamin B)}}{\text{Cal}_i \text{ (daily total energy exchange)}} = K_s \text{ (species constant)} \cdot W_i \text{ (body weight of individual whose vitamin requirement is being studied)}$$

The next step was to determine the applicability of the formula to the determination of the vitamin B requirement of man. This was done by applying it to data available in dietary studies both for groups where the incidence of beriberi was fairly high and for others in which beriberi never occurred. It was first necessary to work out some scheme for expressing the

vitamin B content of the foods contained in these dietaries. The methods used for bringing the data presented by different authors to a common basis are carefully worked out. A table of values expressed as milligram equivalents of the standard test powder used by the author is given. Unfortunately in the table of equivalents no distinction is made between the maintenance unit first proposed by Sherman and the growth unit later proposed by Sherman and Chase. It also is not clear just what the author means by the expression "the daily need of the species."

The use of the formula in determining the adequacy of the vitamin B content of the various diets studied gave remarkable confirmation of its probable accuracy.

Several chapters of the book are devoted to a general discussion of beriberi, methods of vitamin B assay, and clinical conditions possibly ascribable to a deficiency of vitamin B. The short summary given in the last chapter is a valuable part of the book. The author is to be congratulated both on the wealth of material offered and on the admirable way in which it has been presented.—HAZEL E. MUNSELL, *U. S. Bureau of Home Economics.*

Modern Housing. By CATHERINE BAUER. Boston: Houghton Mifflin Company, 1934, 331 pp. and 48 pp. of plates, $5.

This richly illustrated volume is justly described as an authoritative analysis of the modern planned community. Part I deals with "Nineteenth-Century Cities: A Record of Failure"; Part II, with the earlier attempts at reform; Part III, with post-war housing, especially in Europe, its accomplishments and shortcomings; and Part IV, with elements of modern housing, such as minimum standards, community units, layouts, plans, construction, architecture, economics, and some special problems of housing in the United States. An appendix traces housing developments since 1850 in England, Germany, Holland, Belgium, France, Austria, the Scandinavian countries, and Switzerland; and a briefly annotated, selective bibliography is included. The author's study of European conditions was made possible by a grant from the Carnegie Corporation.

America Can't Have Housing. Edited by CAROL ARONOVICI. New York: The Museum of Modern Art, 1934, 78 pp., $0.50.

The essays here assembled were published in connection with the Housing Exhibit recently held in the Museum of Modern Art, 11 West 53rd Street, New York City, and describe developments and problems in England and Germany as well as possibilities and difficulties for a national program for low-cost housing in the United States. The authors are all leaders in the housing movement.

The Mother's Encyclopedia. Compiled and Edited by the Editors of "The Parents' Magazine." New York: Reynal & Hitchcock, 1934, 959 pp., $3.

A single-volume edition of the four-volume one noted on page 244 of the JOURNAL for April 1934.

Skin Deep. By M. C. PHILLIPS. New York: The Vanguard Press, 1934, 254 pp., $2.

Face and talcum powders, rouge, lipstick, cold creams, lotions, soaps, hair and eyelash dyes, depilatories, astringents, and other "beauty aids" discussed from the point of view that if there is any doubt whatever as to the safety or harmlessness of a product to the consumer "the danger should be pointed out and the burden of proof, contrary to usual business practice, put on the manufacturer and *not* on the potential victim of the product's use." One chapter, "More than Skin Deep, a Discussion of Diet," brings together from sources of varying authoritativeness a miscellany of ideas regarding nutrition and food selection.

Paulo in the Chilean Desert. By MARGARET LORING THOMAS. New York: The Bobbs-Merrill Company, 1934, 190 pp., $2.

Vivid local color and significant information about a land and people little known in our part of the world are given in this readable story of a little boy who worked his way from an old gold mine high in the Andes, across the Chilean desert with its borax fields, chinchillas, and copper mines, down to a typical little port where he saw his first ships and gardens. The author knows the country at first hand.

ABSTRACTS

CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

Children's imaginary companions, MARGARET SVENDSON. *Arch. Neurol. & Psychiat.* **32,** No. 5 (1934, Nov.) pp. 985–999.

A group of 40 children (between 3 and 16 years old) each of whom had had at least one imaginary companion were compared with a control group of 40 children selected at random. Of the control children, 13 per cent reported imaginary companions. The phenomenon is more common among children of superior intelligence but is not limited to this group. Thirty-five of the selected group were reported to have personality difficulties, timidity heading the list. Fifty-five per cent were only children. The median age for the appearance of the first imaginary companion was 2 years, 5 months. In 33 cases from the selected group the imaginary companion was of the same sex as the child. There seems to be clear indication that the experience is accompanied by visual imagery. The activities shared with the companion tended to be highly charged with emotion.

Young children in Western European countries, MARY DABNEY DAVIS. *Childhood Educ.* **11,** No. 4 (1935, Jan.) pp. 152–158.

Last year the author visited England, Scotland, Belgium, Holland, Hungary, Italy, Austria, Czechoslovakia, Poland, Russia, and Germany; and in this article she summarizes her findings relative to the provisions made for the care and training of young children.

A quantitative clinical method of recording the social behavior of young children, RUTH WASHBURN and JOSEPHINE HILGARD. *J. Genetic Psychol.* **45,** No. 2 (1934, Dec.) pp. 390–405.

A method is described for obtaining an objective record of the social behavior of nursery school children. The study made with it furnishes evidence that there is development from the more individual types of play to the more social with increase of age. A continuity of personality differences in adjustment to social groups is also revealed. The method has proved clinically useful in determining the degree of social maturity as well as individual differences in ability to participate easily in group activities.

The attitudes of children toward death, PAUL SCHILDER and DAVID WECHSLER. *J. Genetic Psychol.* **45,** No. 2 (1934, Dec.) pp. 406–451.

The subjects of this study were 76 children between the ages of 5 and 15, most of whom were classed as behavior problems. The children were questioned about their attitudes toward death and were asked to describe eight pictures suggesting death in some form. The authors found that the child's conception of death consists primarily of the idea of deprivation of movement, feeling, etc. The child does not believe his own death possible, and conceives the death of others to be largely due to physical violence, the result of hostility, or as a punishment.

The reading and the reading interests of gifted children, PAUL WITTY and HARVEY LEHMAN. *J. Genetic Psychol.* **45,** No. 2 (1934, Dec.) pp. 466–478.

Fifty children of I.Q. 140 or higher were studied from 1924 to 1932. It was found that at 10½ years the gifted children spent as much time reading as a group who had less than high school but more than 8th grade schooling, and that at 15½ they devoted more time to reading than did the average high school graduate. The gifted girls read more books than did the gifted boys, but the gifted boys read more magazines and newspapers than the girls. There were marked changes in interest over the 8th year period with a concentration of interest in favor of fewer types of books. Tables are given to show the kinds of voluntary reading most enjoyed by gifted children at ages 10½, 15½, and 17½. Among the gifted children little interest was exhibited in the books dealing with the fine arts, with music, and with the drama.

High points of the Conference on Education for Marriage and Family Social Relations.

J. Soc. Hyg. **20,** No. 9 (1934, Dec.) pp. 417–428.

This is an unofficial report of the conference held in New York City in July 1934 under the sponsorship of Teachers College of Columbia University, the American Social Hygiene Association, and the American Home Economics Association.

Betrothal, PAUL POPENOE. *J. Soc. Hyg.* **20,** No. 9 (1934, Dec.) pp. 442–448.

The conclusions of this article are based on the records of 15,000 clients of the Institute of Family Relations. It appears that the betrothal period is of considerable importance both eugenically and psychologically. It makes possible a better sexual selection; it affords a period of mutual accommodation; and is a stimulus to biological and psychological maturation. The turning of this period into trial marriage provides highly unsatisfactory results, and early marriage even under adverse economic conditions is to be preferred.

Fifty recidivists in the Norfolk Juvenile Court, H. G. COCHRAN and A. A. STEINBACK. *Ment. Hyg.* **18,** No. 4 (1934, Oct.) pp. 576–590.

The records of 50 juvenile recidivists were studied from the point of view of causes contributory to anti-social and delinquent behavior. The authors found that for their group delinquency is not explicable solely on the basis of mental deficiency. An overwhelming proportion of recidivism is found among children living in poor or only fair neighborhoods. About one-half of the group come from broken homes; others from homes with both parents but characterized by discord and emotional strain. More than one-half of the parents were rated as low grade, very naive, or apparently mentally retarded, and in all but two cases they were either illiterate or of low-grade education. In 36 cases the family was either on relief or had an inadequate income. Seven-tenths of the children had records of school failures.

Can study groups lead parents to a better emotional adjustment? META DOUGLAS. *Ment. Hyg.* **18,** No. 4 (1934, Oct.) pp. 604–610.

Regardless of the motives which bring the members of a study group together, there are usually three kinds of attitudes confronting the leader: Some members are working for credit, intellectual or social; the majority are conscious of some dissatisfaction in their family relationships and wish information for more satisfactory adjustment; a few do not know just what they want but are impelled by some unrest. It is for this last group that the discussion method under trained leadership can be of greatest use. In expressing her own ideas and hearing the ideas of others the individual may release much emotional tension and work out a better adjustment.

The field of parent education, HELEN L. WITMER. *Parent Educ. Monograph* **1,** Nat'l Council of Parent Educ., Inc., 1934, pp. 81.

The first section of this review of research in the field of parent education is concerned with the underlying philosophy and objectives, the movement, and the inter-relation between parent education and the other social sciences, and the lack of a clear definition of the field. The second section considers parent education as a going concern and discusses organizations carrying on a parental education program, leaders in the field, and methods used. The third section groups the basic problems of parent education under four main headings: (1) What do parents want from parent education? (2) What are the handicaps to successful family life? (3) To what extent can these handicaps be removed by education? (4) Under what conditions does adult learning take place? The final section takes up the evaluating of parent education, finds that existing investigations are too limited to justify any conclusions as to its effectiveness, and points out that a definition of the purpose of parent education must precede any evaluation.

E. Mc. G.

FAMILY ECONOMICS[1]

Cost of retail business and the retail structure, I. K. ROLPH. *Am. Marketing J.* **1,** No. 4 (1934, Oct.) pp. 178–183.

This study of the effects of central location upon retailing costs is based upon data gathered in St. Louis during the federal census of distribution in 1930. Of 70 lines of retail trade located both inside and outside the central shopping area, 37 (more than half) had lower operating expense ratios when within this area. When centrally located stores operated at lower cost per dollar of sales than outside stores it was because of their greater sales volume which offset their higher dollar costs of operating. General merchandise, furniture, and apparel stores did about three-fourths of the retail business in the central districts; food and automotive stores were the most important types located exclusively outside.

Profits from statistical control of mark-downs in a style business, S. L. KEDZIERSKI. *Am. Marketing J.* **1,** No. 4 (1934, Oct.) pp. 191–196.

Since style goods, such as garments, become obsolete rapidly, it is necessary to price those sold early in a season so that profits made then will cover losses on those marked down later. The author has worked out formulæ to use in setting initial prices to provide adequate margins.

Rehabilitation of stranded families, LAWRENCE WESTBROOK. *Ann. Am. Acad. Pol. & Soc. Science* **176** (1934, Nov.) pp. 74–79.

Thousands of families have been left stranded in localities where they no longer can make a living because of drought or of exhaustion of timber lands, coal mines, or oil fields. The author, assistant administrator of the F.E.R.A., urges rehabilitation of such families through establishment of organized rural communities provided with decent dwellings and with facilities for small-scale gardening, for cooperative development of industrial enterprises, and for community health, education, and recreation. This plan he considers preferable to direct relief, since it offers a family an opportunity to work out its own salvation.

Health in the New Deal, EDGAR SYDENSTRICKER. *Ann. Am. Acad. Pol. & Soc. Science* **176** (1934, Nov.) pp. 131–137.

An effective, comprehensive public health program on a national scale is a challenge worthy of the New Deal. A broadened concept of society's responsibility for the health of the population is necessary, since investigations have shown that a large proportion of persons are unable to pay for adequate medical care. Some satisfactory method of distributing medical costs is essential. Federal appropriations should supplement local funds for medical care of those unable to buy it and for provision of medical and health facilities.

Chain stores cooperate for more informative labels. *Ind. Stand.* **5,** No. 4 (1934, Sept.) pp. 197–198; Grocery chain stores urge grade labeling. *Ind. Stand.* **6,** No. 1 (1935, Jan.) pp. 17–19.

The executive committee of the Food and Grocery Chain Stores of America, Inc., recommends the use of the grades Fancy, Choice, Standard, and Substandard on labels of canned foods rather than the "descriptive" labels urged by some canners. Grades to be used are those promulgated by the U. S. Department of Agriculture for tomatoes, cream-style corn, whole-grain corn, snap beans, peas, and grapefruit. In addition, this committee recommends: the appointment of a permanent committee to work out standardized grades for additional products and to change standards for existing grades as research develops new information; the printing on labels of a "key" to the grade terms, as well as the actual grades; a provision in retail and wholesale codes providing that it shall be a code violation to sell or distribute canned goods without grade labels; statement on labels of size of snap beans and peas; placing of required information in a "box" set off from the rest of the label; permission

[1] Consumer purchasing, a division of the general field of family economics, is attracting so much special attention that a separate section of abstracts is now given over to it in the *Journal of Home Economics*, as in the January and April issues.

given canners to add information concerning products on the label, outside the box, provided such information is true. These steps are urged to protect consumers and to eliminate abuses in the industry. This trade association includes practically all the country's food chains except the Great Atlantic and Pacific Tea Company. That chain already has advised the Consumers' Advisory Board of the N.R.A. that it is revising its canned food labels to conform with the definitions of the U. S. Department of Agriculture.

A.S.A. is asked by N.R.A. board to develop grading system. *Ind. Stand.* **5,** No. 10 (1934, Oct.) pp. 214–217.

Acting upon a request from the N.R.A. Consumers' Advisory Board, the American Standards Association will hold preliminary conferences with producers, consumers, advertisers, distributors, and governmental groups to work out a model system of terms for designating grades and qualities of commodities. The Consumers' Advisory Board points out that many grade terms now used are misleading, as Fancy for the sixth grade of asparagus, and Best Extra for the sixth grade of raw silk. Standard grading terms should be developed which will not pile up superlatives (as does Special Grand silk), which will not conceal top grades (as does U. S. No. 1 cheese, which actually is the third grade), which will be easily remembered by the consumer buyer, and which will be flexible, capable of adaptation to new products.

Immediate use of quality grading asked of canners by consumer board. *Ind. Stand.* **5,** No. 11 (1934, Nov.) pp. 243–244.

The N.R.A. Consumers' Advisory Board has asked for immediate adoption of quality grading of canned foods, using grades A, B, and C. The Board finds that such grade labeling in Canada has resulted in increased consumer confidence and greater sales of high grade products, and that advertising has gained rather than lost through candor. Definite grades are more helpful to consumers than the descriptive terms advocated by canners, since without agreement as to the meaning of "tenderness" of peas and "greenness" of asparagus, such terms are meaningless. Without grades on labels the consumer does not know what she is buying, undesirable goods rejected by commercial buyers are passed on to consumers, and unfair competition between canners flourishes.

The future of radio as an advertising medium, HERMAN S. HETTINGER. *J. Bus. Univ. Chicago* **7,** No. 4 (1934, Oct.) pp. 283–295.

The sale of time for radio advertising in 1933 totalled about 57 million dollars and the author expects such advertising to increase. The majority of radio advertisers probably will be manufacturers of convenience goods of low price and high repeat purchase, as foods, drugs, and cigarettes; but expensive articles, as automobiles, also may be successfully sold by radio. Radio advertising has the advantage of isolation for the advertiser's message, of the spoken word rather than the written, and of a personal conversational appeal. The advertisement can be placed opposite a program which creates the feeling tone desired by the manufacturer and which enhances his prestige. It is effective, therefore, in establishing trade names and popularizing slogans. Problems to be worked out more satisfactorily include location of radio stations, allocation of frequencies, duration of license periods, adjustment of rates, balance between programs of different types.

Chain store mortality, CHARLES F. PHILLIPS. *J. Bus. Univ. Chicago* **7,** No. 4 (1934, Oct.) pp. 318–327.

Previous studies of mortality in retailing, with the exception of that made by the Federal Trade Commission, have been confined to independent stores. This study, carried out in Boston, indicates that chains have a lower mortality than independents and that large chains have lower mortality than small. Since too rapid opening and closing of stores is socially wasteful, this is added evidence that chains provide economical channels of distribution, other investigations having shown their efficiency in reducing operating costs, gross margins, and prices paid by consumers.

D. M.

FOOD COMPOSITION

Contributed by the staff of the Food Composition Section, Bureau of Home Economics, United States Department of Agriculture

The iodine content of hospital foods, VERSA V. COLE, GEORGE M. CURTIS, and MARY L. BONE. *J. Am. Dietetic Assoc'n* **10,** No. 3 (1934, Sept.) pp. 200–207.

Iodine was determined in a variety of foods by a modification of von Fellenberg's method. Results are given in gamma per cent of wet weight of the different foods as prepared and served to a patient in Columbus, Ohio, over a four-day period. The total daily iodine intake calculated from these data was 161, 196, 168, and 207 gamma.—C. C.

Classification of fruits and vegetables according to their carbohydrate content, GEORGIAN ADAMS and CHARLOTTE CHATFIELD. *J. Am. Dietetic Assoc'n* **10,** No. 5 (1935, Jan.) pp. 383–390.

A new grouping of fruits and vegetables, based on a study of their carbohydrate distribution, is presented to meet the need for a more nearly uniform system of classification. This new grouping is based on figures for carbohydrates calculated as nitrogen-free extract. The group limits and averages are chosen so as to give a practical working system and at the same time reduce the errors from calculating carbohydrate values on the basis of group averages. Six groups are defined in which carbohydrate is calculated at 3, 6, 9, 12, 15, and 18 per cent respectively. The lists include fresh and canned vegetables, fresh fruits, and fruits canned without added sugar.—G. A.

A comparison of the mineral (base) composition of dietaries as determined from tables and by analysis, EATON M. MACKAY and ALLAN M. BUTLER. *J. Am. Dietetic Assoc'n* **10,** No. 5 (1935, Jan.) pp. 398–400.

Ten diets based on an extensive and varied list of foods were analyzed for sodium, potassium, calcium, magnesium, and phosphorus. The results for each diet, as found by analysis, were compared with the estimated amounts as calculated from standard tables on the mineral content of foods. The errors in the computed values were irregular but very large, the average deviation for the sodium being 41 per cent, that for phosphorus being 14 per cent, and for the others 26 to 29 per cent. For close estimates the mineral content of the diet should be determined by analysis rather than by calculation from standard tables.—G. A.

The calcium and phosphorus content of some Alabama vegetables, EDNA R. BISHOP. *J. Nut.* **8,** No. 2 (1934, Aug. 10) pp. 239–245.

Original analyses of 307 samples of several Alabama-grown vegetables are reported. Dry matter, total ash, calcium, phosphorus, and Ca: P ratio are given as average and range for each kind. Individual variation is wide. Calcium averages lower and phosphorus higher than standard tables indicate for the same vegetables. Treatment of soils with superphosphate increased the phosphorus content of cabbage and lettuce sharply and produced no consistent effect on the calcium content. Included among the vegetables are several kinds on which only the most meager data have been available previously.—C. C.

The limitations of cereal-milk diets for hemoglobin formation, C. A. ELVEHJEM, E. B. HART, and W. C. SHERMAN. *J. Pediat.* **4,** No. 1 (1934, Jan.) p. 65.

The iron and copper content of five commercial breakfast cereals, one of them refined, is reported in connection with a series of feeding experiments planned to show whether milk-cereal diets are effective in blood regeneration. Tests were made with anemic rats on diets in which milk furnished 60 per cent of the calories and cereal 40 per cent. No one of the cereals studied brought the hemoglobin of the rats to normal, the poorest response coming with the refined product. Iron was shown to be the limiting factor. The authors point out the application of their findings in planning diets for young children.—C. C.

FOOD UTILIZATION

Contributed by the staff of the Food Utilization Section, Bureau of Home Economics, United States Department of Agriculture

Effect of sugar granulation on the structure of cake, CHARLES A. GLABAU. *Bakers Weekly* **84,** No. 1 (1934, Oct. 6) pp. 44–45.

Angel, layer, and pound cakes were made with sugar ranging from a very fine crystalline form of granulated sugar known as "coating sugar" up to the coarsest. It was found that granulation or crystallization, as far as particle size is concerned, definitely affects the different characteristics of the finished cake. It was almost possible to pick out the crystal size of the sugar used by the so-called "sugar spots" that appeared on the upper crust, the larger crystals giving more and larger spots. The cakes containing the very fine sugars had very thin crusts and rather dense cellular formation. It was concluded from the experiments that the best cakes were made with the sugars labeled "extra fine" and those second in choice with fine granulated sugar.—R. L.

Report of the Food Investigation Board for the year 1933. Department of Scientific and Industrial Research. Published by His Majesty's Stationery Office, London, 1934.

This report describes briefly work done or in progress, gives some of the data gathered, and lists references to the publications that carry the full reports of the work.

From the Low Temperature Research Station meat investigations are reported that include work on myosin and myogen and on the state of water in muscle; in connection with storage problems, the freezing of tissues, changes in muscle pigments and in fats, the tank curing of pork, and the storage of meats and chickens in carbon dioxide under various conditions, are discussed. A study of the effect of various methods of canning on the vitamin in apples is included, also one on the effects of slow and quick freezing of fruits and vegetables in storage.

Work on the storage and curing of fish is reported from the Torry Research Station.

The work reported from the Ditton Laboratory deals with the biological phases of storage engineering, including experiments in progress on gas storage of fruits, while that from the National Physical Laboratory considers the physical aspects of such engineering. The Imperial College of Science and Technology reports chemical and biological work on fruit.—N. G. C.

How to make cranberry jelly, R. E. Cox. *Food Ind.* **5,** No. 9 (1933, Sept.) pp. 348–349.

Difficulty in making a satisfactory jelly from cranberries is attributed to the too rapid action of the natural pectin in the cranberry. By first destroying this pectin in cranberry pulp with the enzyme pectinase, available in commercial form under the name Pectinol, and then adding a slow-setting pectin, a satisfactory jelly can be obtained. The process, which is to be patented, is said to be applicable to other fruits presenting similar difficulties.—R. L.

Press fluid from heated beef muscle, ALICE M. CHILD and MARY BALDELLI. *J. Agr. Research* **48,** No. 12 (1934, June 15) pp. 1127–1134.

A method is described and apparatus illustrated for expressing juice from cooked beef muscle. Results obtained by its use indicated no significant difference in the proportion of press fluid to dry matter obtained from the psoas major and biceps femoris.—N. G. C.

Effect of respiration on vegetable flavor, E. F. KOHMAN and N. H. SANBORN. *Ind. & Eng. Chem.* **26,** No. 7 (1934, July) pp. 773–776.

Bruising of vegetables has a marked effect on respiration in their tissues. Oxygen consumption is greatly reduced. Carbon dioxide evolution usually increases, although, contrary to the usual opinion, it may under certain conditions decrease but not to the same degree as the oxygen consumption. Since the cells of raw frozen vegetables are generally ruptured, the effect of the process is similar to that of severe bruising, a fact which explains the off-flavors that develop. The alcohol and acetaldehyde which are produced in bruised vegetables apparently as a normal product of anaerobic respiration do not account for the

off-flavors that develop in vegetables in which artificial anaerobic respiration has been induced and in bruised or raw frozen vegetables.—R. L.

Shortening value of plastic fats, JENNIE FISHER CAWOOD. *Ind. & Eng. Chem.* **26,** No. 9 (1934, Sept.) pp. 968–969.

Different fats were made into a pie crust and their shortening value determined by means of the Bailey shortometer. When the pie crust was made with 200 gm. general-purpose flour, 118 gm. fat, 45 cc. water, and 6 gm. salt, the comparative percentile in shortening values were as follows: refined steam lard 100, vegetable oil compound 89.2, hydrogenated lard 80.4, hydrogenated cottonseed oil 77, animal stearin-vegetable oil compound 74.1, and hydrogenated cottonseed oil 72.9. The relative shortening values of these fats were found to be of the same order when either general-purpose flour or pastry flour was used.—R. L.

Shrinkage and heat penetration during the roasting of lamb and mutton as influenced by carcass grade, ripening period, and cooking method, LUCY M. ALEXANDER and NANCY GRISWOLD CLARK. *U. S. Dep't Agr. Tech. Bull.* 440 (1934, Aug.) 26 pp.

In experiments on 1,185 legs of lamb and mutton roasted by 7 methods, data were obtained on weight of drippings, loss by evaporation, and cooking time. Values for experimental errors in such a study, as derived from a series of 93 paired legs, provide a basis for judging the significance of differences. Carcass grade and period of ripening had an important influence on the loss of weight during roasting and also on cooking time for both lamb and mutton. Pound for pound the higher (fatter) grades of lamb lost considerably more weight as drippings and gave only slight differences in evaporation. More time was required in minutes per pound to roast common or cull lamb than the higher grades. Longer ripening reduced the shrinkage and the cooking time as shown by 60 paired lamb legs. Comparison of several cooking methods showed that higher average oven temperatures, though they reduced the time, increased the evaporation and loss as drippings in lamb cooked to 76°C. internal temperature. When lamb was cooked to 83°C. the higher oven temperature shortened the time without affecting the shrinkage significantly. When the finishing temperature was the same searing lamb increased the shrinkage and decreased the time of cooking as compared with constant oven temperature. When the constant oven temperature was higher than the average of searing and finishing temperatures, lamb cooked at the constant temperatures shrank more and cooked faster.—C. C.

The odor and flavor of eggs, RUTH B. MCCAMMON, MARTHA S. PITTMAN, and L. A. WILHELM. *U. S. Egg & Poultry Mag.* **40,** No. 4 (1934, April) p. 39.

Eggs from several college flocks and from several farm flocks were held at a temperature of 70°F. for different periods and judged as to odor and as to the flavor and color of the raw yolk. Flavor was judged with the judges blindfolded. The odor of the egg was always judged less desirable than its flavor and seemed to be influenced by both the ration and the method of handling. Week-old eggs were judged only slightly less desirable in odor and flavor than eggs less than 24 hours old. The flavor of dark-colored yolks was scored but slightly lower than that of lighter ones. The color of the yolk became deeper with the addition of yellow corn or green feed.—W. G. R.

TEXTILES AND CLOTHING

Contributed by the staff of the Division of Textiles and Clothing, Bureau of Home Economics, United States Department of Agriculture

Dyeing feathers for toy making, EGOR GRUNEOID. *Am. Dyestuff Repr'r* **23,** No. 23 (1934, Nov. 5) pp. 609–610.

Dyed and bleached pen feathers from the wings and tails of domestic fowls find a use in making a variety of toys. White plumage is processed more easily than colored stock. During processing in hot liquors the feathers are handled in frames similar to some described in this paper. Scouring generally consists of a little more than degreasing, and cleaning is usually done in a warm bath containing ammonium carbonate. The feathers are bleached with hydrogen peroxide in the usual manner and dyed with either acid or basic colors.—R. E. E.

Dress reform in the factory, J. H. MITCHELL. *Human Factor* **8,** No. 10 (1934, Oct.) pp. 367–375.

This article points out the desirability of a uniform especially designed for factory use and the unsuitability for work of discarded best clothes. The principles to be followed in the design of comfortable, hygienic, and presentable work costumes are discussed. As examples, a carpenter's apron, a uniform for women outdoor workers, and protective gloves are illustrated.—M. S.

Determination of sulphur and sulphate in wool, RALPH T. MEASE. *J. Research Nat'l Bur. Stand.* **13,** No. 5 (1934, Nov.) pp. 617–623.

Methods for the quantitative determination of total sulfur and sulfate sulfur in wool are described. The total sulfur in wool is estimated by completely oxidizing a specimen in an oxygen bomb, absorbing the oxidized sulfur in ammonium carbonate, precipitating and weighing it as barium sulfate. The sulfate sulfur is determined by dissolving a specimen of the wool in hydrochloric acid, precipitating and weighing the sulfate as before. Sulfur occurs in wool as an essential constituent of the wool substance, and the percentage present is considered an indication of the quality of the wool with regard to fineness, state of chemical deterioration, and damage due to such common factors as exposure to the light and the weather.—R. E. E.

A contribution to the chemical theory of dyeing: the affinity of diaminated wool for acid dyes, J. B. SPEAKMAN and E. STOTT. *J. Soc. Dyers & Colourists* **50,** No. 11 (1934, Nov.) pp. 341–348.

Various investigators have tried to disprove the chemical theory of dyeing by stating that the affinity of wool for acid dyes is unchanged when the amino groups, with which the acid dyes combine, are removed. The present authors show (1) that it is difficult to remove the amino groups of the wool molecule, and (2) that when wool finally is diaminated, its affinity for acid dyes is far less than that of untreated wool. Thus the main objection to the chemical theory of dyeing is removed.—R. E. E.

Classification of direct dyes with respect to the production of level dyeings on viscose rayon, JOHN BOULTON and BARBARA READING. *J. Soc. Dyers & Colourists* **50,** No. 12 (1934, Dec.) pp. 381–389.

Recent research has indicated that "unlevelness" in dyed viscose rayon is caused by variation in speed of dye-absorption by the yarn. Since in practice dyeings are rarely taken to the equilibrium stage, the dyes which dye most slowly are those which most show up inequalities in viscose rayon. A method of estimating dyeing speed is outlined for use in routine dye-testing, and a list of 71 tested dyes is given with the dyes arranged in ascending order of time of dyeing.—R. E. E.

Absorption of water by linen. Part I. Flax yarns, M. H. PRESTON and J. A. MATTHEW. *J. Textile Inst.* **25,** No. 10 (1934, Oct.) pp. T311–T330.

Two aspects of absorption are rate of wetting and percentage of water held. An apparatus is described which permits the separate measurement of both aspects by drawing a quantity

of yarn through water at a definite temperature. Determinations of the completeness of wetting and percentage of water held after immersion for 20 seconds at 15°C. were made for three yarns—grey, boiled, and bleached—spun with six different twist factors. Dry-spun and wet-spun yarns of both linen and tow fibers were also studied. This work on absorbency of yarn is a necessary preliminary to that on fabrics.—M. B. H.

Ceremonial fabrics, G. A. RUSHTON. *J. Textile Inst.* **25,** No. 11 (1934, Nov.) pp. P389-P396.

This report on fabrics used in England for state, church, army, and navy ceremonies traces the origin of the various garments and the symbolism of the decorations. At one time the garments differed little from the usual clothing, save that many of them were made from more sumptuous materials. Methods of weaving cloth of gold and of embroidering are described, and photographs of ceremonial garments and fabrics are shown.—M. B. H.

A new set of standards for textile buying. Part II. GRACE G. DENNY and MARY W. NORTHROP. *Modern Hosp.* **43,** No. 5 (1934, Nov.) pp. 63–68.

Specifications to meet the needs of King County Hospital, Seattle, have been drawn up using as a basis the federal specifications wherever available and also findings of a preliminary study. Size and fabric specifications are given for sheets (bleached and unbleached), pillow cases, blankets (cotton warp, wool filling; and 2 types of cotton), wash cloths, bath towels, huck towels, and such yardage as bird's-eye, table damask, drill, canton flannel, outing flannel, Indian head, lawn, quilted padding, marquisette, sheetings, terry cloth, ticking, crash, and twill toweling. Towels for patients' use have a blue stripe, and those for use of personnel have a green stripe. Bedspreads were not included because the type chosen will depend on the general furnishing scheme, and tensile strength will influence the decision very little.—M. B. H.

"Pure" labels for pure silks, ROSAMOND C. COOK and VIRGINIA THORNELL MOORE, *Prac. Home Econ.* **12,** No. 12 (1934, Dec.) pp. 348–349.

This is a discussion of the results of tests made on 17 silk slips labeled "100 per cent pure silk." All except one were found to be heavily weighted. A program for home economics groups to follow in investigating merchandising methods is outlined.—M. S.

Modern methods of stain removal, J. F. HOLMES. *Textile Colorist* **56,** No. 672 (1934, Dec.) pp. 806–807.

Stains and proper methods of stain removal are often serious problems in the textile industry. Grease stains caused by over-liberal use of the oilcan or by inefficient machinery, dye stains, and stains made by tobacco, gum, and foodstuffs are very common and unless carefully removed may be the cause of considerable waste and loss.

The successful removal of stains depends largely on the method of treatment or manipulation. For instance with grease stains it is best to place the fabric (with the stained side down) on a pad of blotting paper and apply the cleaning fluid with a soft cloth. To prevent forming a ring, work from the outer edge of the stain to the center, always patting instead of rubbing the spot. For other stains the method of working is equally important.

Grass stains may be treated with denatured alcohol. Coffee stains can be bleached with potassium permanganate followed by hydrogen peroxide, or hot glycerine may be applied. In removing ink stains the method employed depends entirely on the kind of ink. Other stains which are briefly discussed are perspiration; scorch; blood; acid; pitch, tar, and asphalt; paint; soot; lampblack; and stains caused by running colors. Helpful methods in removing the common stains are given in U. S. Department of Agriculture Farmers' Bulletin No. 1474 "Stain removal from fabrics: home methods," which can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.—M. S. F.

"Damaged and kept" rayon fabrics, A. E. CATER. *Textile Mfr.* **60,** No. 720 (1934, Dec.) p. 505.

Much rayon now rejected in mills as damaged

could be made saleable. Overprinting, for example, may be used to cover defective dyeing. Many rayon fabrics are suitable for embossing, a low-priced process which covers many defects. A moiré finish often improves the appearance of imperfect failles, taffetas, crêpe-weft cloths, or materials of a poplin type. A damage to certain portions of a fabric which would prevent it from being sold as yard goods might not interfere with its use for cutting up and fashioning into garments.—R. E. E.

Micro-analysis of textile fibers. Part II. Observation on the structure of ramie, G. GORDON OSBORNE. *Textile Research* **5,** No. 2 (1934, Dec.) pp. 75–91.

Ramie, one of the purest forms of cellulose, has served as a basis for research work on intimate structure detail. There is considerable misunderstanding concerning its molecular arrangement, so-called joint structures, and markings. The author shows by means of a casting technic and subsequent microscopic examination of the fiber in situ and after removal from the cast that many of the familiar markings exhibited by ramie are actually fissures. A partial explanation of the known lack of resistance to bending and torsion displayed by the fiber is offered.—M. B. H.

Methylene blue absorption as a quantitative measure of wool damage, RUTH E. ELMQUIST and OLIVE P. HARTLEY. *Textile Research* **5,** No. 3 (1935, Jan.) pp. 149–156.

The absorption of methylene blue from buffered solutions is proposed as an index to wool deterioration, since it can be measured quantitatively by a simple titrimetric procedure. A linear relationship was found to exist between absorption and tensile strength. Tests showed that reworked wool absorbed nearly four times as much methylene blue as new serge. An important use for this test might be to disclose the degree of deterioration of the wool in some of the dyed reworked-wool products sold as "all wool." The method described can be used on fabrics or raw wool and on undyed or dyed materials. Optimum test conditions were determined and are discussed critically.—J. D. G.

Pretreatment of yarn and other methods for producing unshrinkable knit goods, RAFFAELE SANSONE. *Textile World* **84,** No. 12 (1934, Nov.) p. 2220.

The methods introduced for the production of non-shrinkable wool goods are not entirely satisfactory for knitted fabrics. Knitters are endeavoring to minimize shrinkage by modifying the stitch construction so that the yarn is prevented from moving easily. Decatizing and fulling are also employed. The yarn to be used for knitting is sometimes preshrunk in skein form with a soap solution containing a little sodium silicate. The chlorination of wool is not used for preshrinkage as widely as might be expected.—R. E. E.

The consumer wonders how to judge wool fabrics, ETHEL L. PHELPS. *Textile World* **84,** No. 12 (1934, Nov.) p. 2228.

At the University of Minnesota a study has been conducted for several years on the relationship between the price and quality of wool fabrics. Dress flannels, serges, and gaberdines were included, and measurements were made of such physical properties as thickness, weight per square yard, number of yarns per inch, tensile strength, bursting strength, elongation of fabric, shrinkage, resistance to abrasion, and the twist, size, and elongation of the yarns. Only a few significant relationships were found. These were scattered and different for all groups with one exception—percentage shrinkage in area decreased with increasing price for flannels and gaberdines. The author concludes that price in the case of these three groups of fabrics is not an adequate guide in selection.—M. S. F.

MISCELLANY

Research in Home Economics. Lists of projects in progress and recently completed at the land-grant institutions were compiled by Sybil L. Smith in connection with her report to the home economics section of the Association of Land-Grant Colleges and Universities at Washington last November, and mimeographed copies may be obtained on request to her at the Office of Experiment Stations, U. S. Department of Agriculture, Washington, D. C.

"Research in the Consumers' Interest." Copies of this excellent bulletin on the activities and significance of the U. S. Bureau of Home Economics which Edith Rockwood prepared last winter for the use of supporters of the Bureau may still be obtained for 10 cents each from the National League of Women Voters, Washington, D. C.

Bureau of Home Economics Publications. Copies of the following publications may still be obtained by teachers, students, and school libraries who will write to the Information Division, Bureau of Home Economics, U. S. Department of Agriculture, Washington, D. C.: Circular 89, "Nutritive Value of Food Served to College Students"; Circular 203, "Midday Meals for Preschool Children in Day Nurseries and Nursery Schools"; Circular 205, "The Iron Content of Vegetables and Fruits"; Yearbook Separate 1228, "Meat Keeping in Home Refrigerators Studied in Varying Conditions."

Wild Rice. An illustrated article on this native American cereal appeared in the September issue of *Spyglass*, the quarterly magazine for children published by the American Child Health Association.

Marrons Glacés. An account of the complicated and careful processes used for the production of these delicacies in southeastern France is given in *L'Organisation Ménagère* for November 1934.

Nursery School Training at Tuskegee. According to the *Tuskegee Messenger*, ten young women from different parts of the state were enrolled in the third session of the federally aided training school for Negro women in nursery school management that was held at Tuskegee Institute for the two weeks beginning October 23. Twelve nursery schools with trained Negro teachers in charge have been opened in Alabama under the emergency education program.

The Public Nurse and Family Food Purchasing. Practical points on shopping as well as on food values and meal planning are taken up by Ruth White Fisher, consulting nutritionist of the Public Health Nursing Association of Pittsburgh, in a paper in *Public Health Nursing* for January.

Personnel in Family Case Work. The committee on personnel of the Family Welfare Association of America has assembled several papers dealing with "Personnel Philosophy and Practice in Family Case Work" and has drawn up a series of questions to facilitate discussion of the general subject and the special points raised. All have been printed in a 20-page pamphlet sold at 25 cents a copy by the Family Welfare Association of America, 130 East 22nd Street, New York City.

English Women's Institutes and Nutrition. Nutrition as the basis of national health is being emphasized by the National Federation of Women's Institutes, both in the programs of local institutes and by the publication of popular bulletins and articles; a national conference on the subject will very likely be held this spring. Broadcasts on nutrition have been arranged by the British Broadcasting Corporation, at one of which Lady Denman, president of the Federation, explained how the institutes can aid in bringing this vital problem to the attention of the country.

German Notes. The new Prussian plan for a "rural year" during which graduates of secondary and higher schools in towns of 25,000 or more shall spend a year working and studying in an approved rural center, is described in *School and Society* for January 5. In the

Bulletin of the International Bureau of Education for the last quarter of 1934 we read that for young people in school and at work Saturdays will be reserved for the educative work of the Hitler youth movement; that in Hamburg all pupils leaving elementary schools who do not find employment will be brought together for a "general vocational year," including six or eight weeks in the country; and that from 1935 on teachers in all grades of schools in the Reich will be brought together in camps for four weeks each year. The director of the foreign division of the Federation of German Women's Organizations contributes a statement on "Women in National-Socialistic Germany" to the January number of the *Journal of the American Association of University Women*.

The Leather-Glove Industry. Interesting bits of information about glove construction are incidentally included in the discussion of "Hours and Earnings in the Leather-Glove Industry" recently issued as U. S. Department of Labor, Women's Bureau Bulletin No. 119.

Fire Hazards in the Home. At the home safety session at the recent National Safety Congress, R. B. Criswell of the Ohio Inspection Bureau used ingenious miniature apparatus to demonstrate the actual workings of such common home fire hazards as an overloaded electric wire, an overheated electric iron, spontaneous combustion of painty or oily cloths, the downward spread of gasoline vapors, even an explosion created by sifting flour and cornstarch.

"Germicidal Value of Pure Soap." An article on the subject by F. A. Diasio appeared in *Medical Review of Reviews* for August 1934, reprints of which have been made available by the Procter and Gamble Company.

Cosmetics. Clear, concise statements as to the nature of perfumes, creams, astringents, rouge, powders, manicure preparations, dyes, lotions, and similar products, and the results that may reasonably be expected of them and of so-called beauty treatments, together with a list of references, are found in Number 12 of the Better Buymanship bulletins published by the Household Finance Corporation, 919 North Michigan Avenue, Chicago, Illinois.

Educational Value of Advertising. Dr. Rowntree's paper on food advertisements and their value in the classroom which appeared in the December JOURNAL and also the accompanying editorial are quoted and commented on in the January issue of the *American Journal of Public Health* under the caption "Should the Public Health Education Section Do Likewise?"

Group Discussion. "How to Lead Discussion" is a helpful pamphlet of 31 pages which Le Roy C. Bowman has prepared for the use of group leaders, and which the Womans Press, 600 Lexington Avenue, New York City, sells for 35 cents a copy.

"America's Little House." The little house erected on the corner of 39th Street and Park Avenue by the New York committee of Better Homes in America in cooperation with the Columbia Broadcasting System and its use as an educational demonstration of the possibilities of moderate-priced building and furnishing are described in a beautifully illustrated brochure issued by Better Homes in America, Inc., 101 Park Avenue, New York City.

Radio: The Fifth Estate. The January issue of the *Annals of the American Academy of Political and Social Science* carries a symposium of about thirty papers on broadcasting systems, services, and problems here and abroad. Among the contributors are well-known men in public life, educators, musicians, newspaper writers, advertising men, and officials of broadcasting systems in various countries.

Grade Labeling of Canned Foods. A study of the Canadian grade labeling law and its operation and of Canadian opinion regarding it, together with what this information shows as to the probable effects of similar regulations in the United States, was made by the Consumers' Advisory Board, and the report was issued in mimeographed form during the last days of 1934.

NEWS NOTES

GENERAL

World Federation of Education Associations. The biennial convention will be held in Oxford, England, August 10 to 17. Wide representation is assured by the fact that the meeting is being arranged in conjunction with the International Federation of Teachers Associations (elementary) and the International Federation of Associations of Teachers in Secondary Schools. The various departments of the World Federation will have programs, among them Home and School, Preschool and Kindergarten, and Adult Education. Information about travel and tours may be obtained from the World Federation of Education Associations, 1201 Sixteenth Street, Washington, D. C.

Junior High School Conference. New York University has called its 11th annual Junior High School Conference to meet at its School of Education, Washington Square East, on March 8 and 9. The general subject is "Junior High School Pupils—How Can They Achieve Democracy?" and the director is John Carr Duff.

Training for Recreation. In recognition of the increasing need of leadership for recreation and leisure, the International Y.M.C.A. College in Springfield, Massachusetts, has arranged a special training program for the winter and spring terms, the latter running from April 1 to June 14. Besides more general courses on the present social situation, physical education, and community organization, there are specialized ones on such subjects as camping, dramatics, public speaking.

Omicron Nu. The Twelfth Conclave of Omicron Nu will be held in Chicago, Illinois, June 21 and 22, just prior to the annual meeting of the American Home Economics Association. All members are urged to combine attendance at the two.

ALABAMA

Alabama College. On Tuesday, January 8, Mrs. Pearl Brandon Crawford, field worker in parent education, began a series of 12 weekly afternoon radio talks on child study. To supplement them a list of suggested readings, questions, and related problems had been prepared.

Alabama Polytechnic Institute. Supervised by Dana Gatchell, associate professor of home economics, and Helen Kennedy, nutrition specialist of the extension service, students in the sophomore foods class prepared and served luncheon to the Committee on Agriculture of the State Bankers Association on November 12.

University of Alabama. Ellsworth Woodward, founder of the Newcomb Art School of New Orleans, president of the Southern States Art League, and regional director in 1934 of P.W.A. art projects, was the guest of the Caroline Hunt Club on October 28 and 29. Visitors from Alabama College, Mississippi State College for Women, Birmingham, and Greensboro came to hear his talk on "Art in the South" on Sunday afternoon and to attend the tea given in his honor by the Art Club.

Womans College. The two Methodist Conferences officially interested in the college have voted to change its name to "Huntingdon College," subject to legal ratification.

Extension Service. Three Alabama 4-H Club girls won prizes at the National 4-H Club Congress for low-cost dresses they made as part of the club clothing study directed by Dorothy Dean, extension specialist in clothing and handicraft.

Vocational Home Economics. A father-son-mother-daughter banquet was featured this fall in many schools offering both vocational agriculture and home economics to stimulate interest in the work and a closer relationship between school and home. Attendance ranged

from 75 to 200, and the parents seemed to enjoy the "get-together" with the girls and boys and to hear them tell of their classes, clubs, and home projects.

ALASKA

Alaska College. An exhibit of clothing, millinery, and weaving and other handicrafts made in regular and short courses was displayed at the Open House which the home economics department held on December 4 and which was attended by about 250 people. The Dramatic Club gave a program, and the foods classes served tea.

Thirty-three were enrolled in the short course in home economics last semester and 16 in the class in camp cookery which Lola M. Cremeans, head of the home economics department, teaches during the winter term as a part of the miners' short course.

Allene Sewell was married to Ivar E. Loring in Fairbanks on September 11. She will continue teaching at the College until summer.

Jamie Cameron, '25, is teaching home economics in the high school at Waimea, Kauai, Hawaii.

Extension Service. Madge Reese of the U. S. Department of Agriculture visited the College in July and accompanied Lydia Fohn-Hansen on an inspection trip along the railroad and to the coast cities.

Members of the extension staff flew to Nome in June to teach at the summer school for teachers in Indian schools.

ARKANSAS

Arkansas A. &. M. College. On November 17 the home economics club sponsored an exhibit and demonstration of hand-woven coverlets, pillows, scarfs, and suits to stimulate hand weaving as a home industry and to sell articles made in the home economics department.

College of the Ozarks. A survey course in home economics is being offered for both men and women. It includes units in family relationships, economics of the family, the house, its selection and furnishings, clothing selection, and fundamentals of nutrition.

Emergency Relief Projects. In the 15 kitchens established under the federal relief program 87,000 quarts of meat, vegetables, and fruits have been canned, and several rural rehabilitation loans have been paid by selling these products.

Extension Service. As is its yearly custom, the Extension Service during January conducted four district housing schools throughout the state to disseminate housing information.

State Department of Education. There are 4,078 adults enrolled in home economics and parent education classes in the emergency education program, and the program is still being expanded to include 15 new centers. Cottages are being built in Dell, Heber Springs, and Star City.

CANADA

Calgary Home Economics Association. To begin its survey of the people, customs, and foods of various nations, the Association held a successful Danish dinner on December 13 in the Technical High School. From her first-hand knowledge of Denmark, Mrs. Johansen gave valuable help on details. Viking ships and miniature flags formed the decorations, and attractively costumed waitresses served a tempting menu of Danish foods. At the beginning of the dinner Miss M. Burgess coached the guests on Danish table etiquette. Later she spoke on Danish food and cookery; Miss Edwards described the country itself; and Mrs. Gossip gave a short talk on "Danish Women."

CONNECTICUT

Connecticut Home Economics Association. "The Position of the Trained Woman in the Present Economic Era" was the theme of the winter meeting at the Bridgeport High School on February 16. Alice Edwards, executive secretary of the A.H.E.A., told what home economists in other states are contributing to this situation and Mrs. Chase Going Woodhouse, director of the Institute of Women's Professional Relations, spoke on "The Dilemma of the Young Woman in Business." The luncheon speaker was Marguerite V. Peterson, supervisor of emergency nursery schools in Connecticut. Following the sectional discussion meetings in the afternoon, each chairman summarized the findings of her group for the benefit of the whole Association.

Emergency Nutrition Projects. The F.E.R.A staff has a nutritionist to guide social workers, community leaders, classes of adults on relief, and others who desire help in the choice and use of low-cost foods. The F.E.R.A. nutrition advisory committee has prepared a series of simple nutrition leaflets for distribution through emergency channels.

A series of nutrition lectures and discussions for public health nurses, social workers, and community leaders has been given by the nutritionist of the State Department of Health in three districts in the state.

A nutrition worker from the Connecticut Dairy and Food Council is giving talks and demonstrations on low-cost foods before parent-teacher and other adult groups.

DISTRICT OF COLUMBIA

District of Columbia Home Economics Association. At the luncheon meeting of the Homemakers Section on January 21 at the A.A.U.W. Mrs. C. A. Browne gave an illustrated talk on Yellowstone Park.

Dr. E. M. Nelson of the U. S. Bureau of Chemistry and Soils discussed "The Purpose and Use of the International Vitamin Standard" at the meeting of the Nutrition Section on January 28 at the National Catholic School of Social Service.

At the Textile Section's meeting at the New National Museum on January 24 Mr. Ashbrook of the U. S. Department of Agriculture gave a talk on furs.

The Women in Business Section held a dinner meeting on January 14.

GEORGIA

State Rural Program. Representatives of Abraham Baldwin College, the experiment stations at Tifton and Griffin, and the State University held a week's conference in January with demonstration agents, the state extension staff, and home economists to coordinate the program of rural work carried on under state and federal funds and lay the lines for permanent improvement.

Georgia State College for Women. The School of Home Economics is cooperating with the Federal Power Commission in a nation-wide survey of electrical rates.

The F.E.R.A. nursery school conducted by the School of Home Economics has proved an excellent laboratory for the college students and has done the children much good. The mother's biweekly meetings have been well attended, especially the child nutrition class. Several local physicians have spoken at these meetings.

The colored nursery school sponsored by the home economics department is doing good work again this year.

A nursery school was recently started in Hardwick, a suburb of Milledgeville.

To celebrate Ellen H. Richards' birthday, or Home Economics Day, the Home Economics Club gave a program in chapel which included tributes to Mrs. Richards, a portrayal of the five main divisions of home economics, and the club's new song.

Student Clubs. The student clubs, under the direction of Mrs. J. M. Murray of Miller High School, Macon, gave a radio program in celebration of Home Economics Day.

The plan of work which Mrs. Murray and her committee have worked out includes: a point system for judging the state's outstanding club, several radio programs on student club objectives and activities, a celebration honoring Ellen H. Richards on Home Economics Day next fall, a state scrapbook, and a state club song book.

ILLINOIS

Eastern Illinois State Teachers' College. Dr. Wilhelmina E. Jacobson, formerly of the State Teachers' Normal College, Chadron, Nebraska, has been made head of the home economics department.

Eva Mintle is on leave for study at Columbia University.

University of Chicago. Lillian Stevenson addressed the Household Arts Club of the Chicago Public Schools on December 6 on "The Integrated High School Program."

University of Illinois. Outstanding speakers at the Homemakers' Conference during Farm and Home Week were Mrs. Evelyn Tobey of New York, who discussed "Personality and Clothes"; Mrs. M. L. Fuller of Peoria, "Art in American Gardens"; and Mrs. Spencer Ewing of Bloomington, "Creative Leisure."

Members of the home economics staff of the University supervised by Sybil Woodruff gave a series of talks on "A Panorama of Homemaking Problems"; and lectures on foods included "New Views of Familiar Foods" by Stella Munger; "Measures of Growth and Nutrition" by Julia Outhouse; and "Hygiene and Health on the Farm" by Dr. F. W. Tanner.

Paulena Nickell directed the Farm Home Exhibit.

INDIANA

Purdue University. Next summer the School of Home Economics will again offer three-week unit courses in family relationships and special art problems and seminars in foods and nutrition, home administration, home economics education, and institution economics to anyone holding a bachelor's degree with a major in home economics.

The home economics division of the annual agricultural conference held at the University from January 14 to 18 arranged a stimulating program on a wide variety of subjects. Social features were a tea and a "Where From?" dinner at the women's residence hall, and a luncheon with music, an address, and a short play. Out-of-town speakers included Grace Frysinger of the U. S. Department of Agriculture; Leone Ann Heuer of Sears, Roebuck Agricultural Center, Chicago; Mrs. Clara Gebhard Snyder, Institute of American Poultry Industries; and Aubyn Chinn, National Dairy Council, Chicago.

IOWA

Iowa Home Economics Association. The advisory council met at the University of Iowa on January 12 to make plans for the meeting in Des Moines in March.

Iowa State College. Mrs. Lulu R. Lancaster, who recently resigned as head of the child development department, was married to E. H. Bishop of Los Angeles on December 29. Lydia V. Swanson, associate professor of child development, is acting head of the department.

During the winter term members of the home economics division are teaching consumer problems to semi-weekly classes in adult education sponsored by the Story County Consumers' Council.

Extension Service. Fannie Gannon and L. Mildred Wilson, extension specialists, are cooperating with members of the home economics staff in a series of two-day conferences in 10 cities of the state at which the planning and renovating of houses will be discussed.

Emergency Canning Project. The home economics extension department of Iowa State College is cooperating with the animal husbandry extension department in a "Can a Cow" campaign in the 31 counties of the state's official drought area to induce the canning of at least one cow on each farm and thereby assure the farm family a supply of meat during the spring months.

University of Iowa. As a social service project the student home economics club sent clothes, food, books, and toys to an Iowa City family on relief and will continue to help it throughout the year.

KANSAS

Kansas Home Economics Association. The annual meeting will be held at Manhattan on March 15 and 16.

State Board for Vocational Education. In communities where the work is needed, Hazel A. Lyness is teaching a general program of homemaking education for adults; Cecelia Ensman has classes in hygiene, home care of the sick, and first aid; and Rose Cologne is leading study groups in parent education and child development.

Kansas State College of Agriculture and Applied Science. Dr. Helen Ford and Dr. Dorothy Triplette of the department of child welfare and euthenics directed the month's training school for emergency nursery school workers.

Baldwin. Near the end of the unit on "Keeping Well by Observing Good Health Habits," taught in the Baldwin High School by Margaret Windett, each girl made a poster to illustrate some particular food. Ribbons were awarded for the three best, and each girl had her poster displayed near the lunch counter on the day she supervised the preparation of the hot lunch.

Holcomb. After keeping its magazines in the laboratory for one month, the home economics department circulates them regularly

among the mothers of students, the magazines remaining in each home three days.

Holten. The eighth grade foods classes have visited the city bakery, a creamery, an ice plant, and a mill; and the ninth grade has been to Topeka to see wholesale houses, groceries, and the waterworks.

Madison. After studying and preparing foods in small quantities, the girls bring supplies from home once every two weeks and prepare dishes for their family's lunch.

Topeka. That girls in the homemaking classes of the Topeka High School are learning to make a real home was evident at the exhibit tea in the school's model apartment. It was held before Christmas for friends and parents of the girls with the instructors as sponsors.

Wichita. A course of study planned to meet the ideals of today is being developed, one aim of which is to promote successful home life by teaching girls not to regard marriage lightly and by instilling into them the importance of being able to operate a home on a small income.

LOUISIANA

Louisiana Home Economics Association. About 200 home economists attended the annual meeting in Baton Rouge on November 23 and 24. Officers for 1935 are: president, Lois Stafford, McMain High School, New Orleans; vice-president, Gladys Tappan; secretary, Grace Brinton, Southwestern Louisiana Institute, Lafayette; and treasurer, Martha Hollinger.

State Department of Education. The 19 district conferences conducted by the state supervisors to reappraise past achievements and develop desirable methods and technics were attended by 307 teachers. A teaching pattern was discussed and a class using accepted educational practices was conducted at each conference.

Dr. Lemo Dennis Rockwood, field worker in child development and parental education for the A.H.E.A., participated in the February district conferences on family relationship and child guidance problems.

Louisiana State University. The home economics department has 173 majors this year, an increase of 20 over last.

In February Jessie W. Harris of the University of Tennessee gave a series of three lectures sponsored by the graduate club.

Southwestern Louisiana Institute. The Home Economics Club's annual Christmas bazaar netted a sizable sum for the fund to send delegates to the A.H.E.A.'s Chicago meeting.

Home economics seniors will observe and gain practical experience under the supervision of Grace Brinton in the newly established F.E.R.A. nursery school on the campus.

MAINE

Farmington Normal School. Friends of Mary Palmer, a member of the home economics department for 10 years, were greatly saddened by her death in a Philadelphia hospital on December 28. Her keen interest in young people and in the department at Farmington prompted her to provide for a scholarship fund in her will.

University of Maine. Dr. Marion Sweetman spent a part of last summer in travel and study in England.

Helene Heye studied last summer at the Psychological Institute in Paris under Otto Ronk. Contrasting abnormal behavior with normal adjustment was her special interest.

The largest home economics freshman class to date is following the revised curriculum which includes a freshman social science and an orientation course.

Extension Service. Programs of work dealing with fundamental problems of rural families were arranged during December and January in the 312 organized extension groups of Maine.

MARYLAND

Maryland Home Economics Association. *Baltimore Section.* The section is planning a benefit on February 28 at the performance of L'Amico Fritz, presented by the Civic Opera Company of Baltimore.

Dr. E. V. McCollum will give three lectures on "Newer Facts about Vitamins" during March and April. Section members may attend free and others for a nominal fee.

Hood College. Esther Brower, dietitian at the Frederick City Hospital, is teaching

courses in institutional management and large-quantity cookery.

The art exhibits sponsored by the home economics department have been hung this year in the lobby of Alumnæ Hall, and gallery lectures open to the entire college and community are given on each exhibit by staff members.

The freshman textile classes held an exhibit and sale of hand-woven articles from Berea, Kentucky, prior to the Christmas holidays, and used the commission to buy clothing for a needy child in Frederick.

Onica Prall has been appointed staff adviser to the student club.

Members of English classes at the Frederick High School recently visited the College to see the costumed figurines made by the classes in historic costume.

MASSACHUSETTS

Connecticut Valley Home Economics Association. On January 12 the Association sponsored at the Central High School in Springfield a seminar on "New Trends in Nutrition" conducted by Dr. Grace McLeod of Columbia University; and on February 9 one on "Art in Relation to Dress and Home" by Grace Cornell of the Metropolitan Museum of Art.

MICHIGAN

Michigan Home Economics Association. This year for the first time the president of the Association is a homemaker, Madeline Thompson Hewitt, formerly Lansing's supervisor of home economics.

Home Economics in State Relief. The director of women's work in the S.E.R.A. called an informal conference in December to promote better understanding of the administration's home economics services and the location of its major activities. The dean of home economics and the head of home economics extension at Michigan State College, the state supervisor of home economics, and S.E.R.A. leaders in women's work attended.

Michigan State College. Dr. Margaret Ohlson is replacing Elizabeth Wittaker, now on leave after an automobile accident.

Detroit. Wayne University, in cooperation with the public schools, the Merrill-Palmer School, the P.T.A., and the home economics department of the State Department of Education, inaugurated in early December a well-rounded program of six major units in homemaking education as an extension service to the entire city. Day-time classes are held, and the faculty consists of 3 full-time and 25 part-time teachers.

Kalamazoo and Grand Rapids. F.E.R.A. nursery schools are being operated successfully in these cities under the leadership of the supervisors of home economics and of early elementary education.

MISSISSIPPI

Emergency Nursery Schools. The program for these schools is being developed by Kirby Walker of the education division of the M.E.R.A. and an advisory committee composed of M. Esther Rogers, state supervisor of home economics, Loyette Webb of State Teachers College, and Mary Wilson and Lelia Massey of Mississippi State College for Women. Teachers received three-weeks training at State Teachers College and a week of experience as an assistant in the nursery schools at State Teachers College and Mississippi State College for Women, and in the emergency nursery schools at Hattiesburg and Jackson. Mrs. Sarah Hand Bardin of Jackson and Floretta Wright of Hattiesburg took special training at the Washington Child Research Center in January.

Extension Service. Reports from 311 home demonstration club members and 4-H Club girls in the state show that in 1934 they organized 20 club markets for farm and home products and that market standards have been adopted for 25 products, including tomatoes, tomato juice, beans, preserves, Brunswick stew, and canned chicken.

The outstanding project in food preservation in 1934 was budgeting the supply of canned products to meet family needs. More than 3,000,000 quart jars were filled by club women and girls. In the foods and nutrition work in 1934, 1,916 girls entered contests in baking and food selection.

OUR CONTRIBUTORS

E. M. Andres, director of economics at the Phoenix Junior College, has taught economics, sociology, and principles of education there since 1928. He received his A.B. and M.A. degrees from Western State College of Colorado and has done graduate work at the University of Denver.

Dr. Dwight Sanderson was listed among contributors to the February JOURNAL, which carried the first half of the paper concluded in this issue.

Sybil L. Smith began in the February JOURNAL the article continued in the present number.

Dr. Lemo Dennis Rockwood is, despite her new name, the same widely-known A. H. E. A. field worker in child development and parental education who last June took part in the discussion on which the symposium in this issue is based. **Majorie M. Heseltine,** now nutritionist with the F.E.R.A., has had varied experience in teaching and the business field and is co-author of a deservedly popular cookbook. **Lillian H. Locke** is assistant professor of household arts at Teachers College, Columbia University.

Helen Alfred, secretary of the National Public Housing Conference and editor of *Public Housing Progress*, is an organizer of public opinion favorable to the establishment of a permanent public housing program in the United States. She has traveled extensively and knows housing conditions in Europe and the Orient as well as in this country. At one time she was headworker of the Madison House Settlement in New York.

Dr. Margaret Chaney, now chairman of the department of home economics at Connecticut College, New London, has taught at the Universities of California, Chicago, and Minnesota and at Kansas State College. **Elizabeth Rogge** was the house fellow mentioned in the article which Dr. Chaney and she contribute to this issue. Her earlier teaching experience was at Mississippi State College for Women and Bowling Green State College in Ohio. Since July 1934 she has been nutrition assistant with the Illinois Emergency Relief Commission.

Gisela Urban is vice-president of the National Council of Austrian Women and editor of its organ the *Oesterreicherin* and of the *Tagebuch der Hausfrau.* A native of Teschen, Silesia (now Poland), she was educated in Vienna and for some years was editor of the *Wiener Mode.* During the War she wrote two cookbooks sponsored by the Austrian Government. A founder of the Austrian Suffrage Association, she is now active in promoting improved housing and household conditions.

Evelyn H. Roberts has been research specialist in household equipment at the State College of Washington since April 1929. Prior to that time she did commercial research and high school teaching. The University of Michigan granted her bachelor's and master's degrees.